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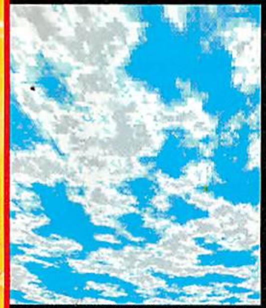
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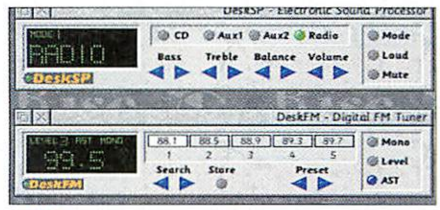
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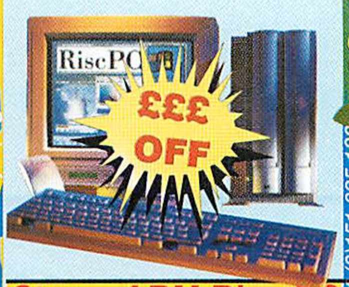
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Vision 24 A3000/3010/3020/4000 internal	HCCS	102.23	£87
Vision 24 A5000/400/300/Risc PC	HCCS	102.23	£87
Vision 24 508 line A3000/3010/3020/4000 internal	HCCS	136.30	£116
Vision 24 508 line A5000/400/300/Risc PC	HCCS	136.30	£116
Vision Master Colour Monitor 15"	iiyama	346.63	£295
Vision Master Colour Monitor 17"	iiyama	585.15	£498
Vision Master Colour Monitor 17" Pro	iiyama	627.45	£534
Whisper Fan Quietener (for A300/A400 Series only)	ICS	17.63	£15
Wizzo5 for A5000	ICS	45.83	£39
Zip Disc 100 Mb (needs no interface)	VTI	16.45	£14
Zip Pack (drive + disc) (needs no interface)	VTI	173.90	£148

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You may also pay by ***credit card, debit card*** or ***Switch***. We make ***no charge*** for this on most products, and take no payment until goods are despatched. We need your address as known to the card issuer, the card number and expiry date, and the valid from date and issue number if any.

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Prices including VAT are shown in italics, followed by the price excluding VAT: eg "*£11.75* £10". Zero-rated items are marked V0. Please pay the amount including VAT unless you are a VAT-registered EC customer outside the UK, in which case please quote your international VAT number. Ours is GB 595 7258 84.

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E&OE U703 97MR25

33MHz ARM3 FPA upgrades

Thought you'd missed your chance to buy and ARM3 upgrade? Simtec has announced it has been able to manufacture a special batch of new 33MHz ARM3 upgrades to fit A300, A400 and A3000 machines. Each ARM3 uses Simtec's original single piece, surface-mount design with integral socket for the FPA10 or FPA11.

The special 35MHz rated surface-mount parts have socketed crystals (except for the A3000 version) and are clocked at 33MHz for the FPA11 and at 25MHz for the FPA10. 33MHz ARM3 with FPA socket (will accept standard FPA11) is priced £152 (inc VAT). 25MHz ARM3 with fitted FPA10 is priced £199 (inc VAT). For more details, contact Simtec on e-mail at: info@simtec.demon.co.uk or phone (01772) 812863, fax: (01772) 816426.

ESP Midi Synth price

In last month's issue the price of the ESP Midi Synth package was quoted as £39.95 (incl VAT). It should read *excluding* VAT.

Anglia comp winners

The answers to the Anglia competition were Tunnel pg74, Multimedia Textease pg61 and Firebolt, pg17.

The winners are S Howell of Teignmouth, Devon, Mr Backler of Peterborough, Denise Foster of Cairneyhill, Fife, Susan Stamp of Carnforth, Lancs and Matt Morrison of Salisbury, Wiltshire. Congratulations.

Learn all about it

Insight Training provide courses on a variety of subjects in Cambridge and Leeds (software courses only). These include beginner courses, hands-on software training plus special interest, network management and support and servicing courses. Prices begin at £80 ex VAT for a days Acorn Explorer course.

For further details contact Insight Training on (01223) 812927 or e-mail insight@argonet.co.uk

New Spacetech details

E-mail for Spacetech should now be addressed as follows: xxx@space tech.co.uk, eg sales@spacetech. co.uk (Spacetech is now spelled correctly in the e-mail address). Their Web site is http://spacetech. co.uk

Acorn reveals most advanced STB yet



ALTHOUGH THE ending of the Cambridge Trial was announced at the same time and the wait for wide-scale commercial services looks as lengthy as ever, Acorn has revealed a new advanced set top box, the STB22. It is a cross between an NC (Network Computer) and a STB. It has typical STB features like an ATM25 multimedia network interface and can perform interactive video as well as being Internet-enabled, complete with a Web browser and support for Java applications.

The icing on the cake is MPEG2 video playback capability, courtesy of an LSI MPEG2 chip-set. Acorn claims the combination of MPEG2, ATM25, Internet and Java support is unique in a single STB solution. Acorn can swap the ATM25 interface for an Ethernet type if required.

Acorn says the STB22 is currently being trialed and evaluated in the USA, Europe and Asia. Target markets range from PTT-scale mass deployment to corporate intranet applications. Acorn's hope is that the interactive TV market will eventually take off, enabling them to license the design to volume manufacturers.

Simon Wyatt, director of Acorn's Online Media division, commented, "The STB22 takes us onto another level in the development of interactive technology. Its features give it a significant edge over its competitors and we believe our box will be the number one set-top product of choice. Its combination of features, in addition to its low cost/high performance RISC architecture, make it pretty hard to beat. We have already had a very positive response to this product and expect it to take the market by storm."

Xara to produce browser plugin for Acorn?

IT SEEMS the guys at Xara Ltd/Computer Concepts can't sever their connections with the Acorn world entirely. This month there is news of a fairly major initiative which will see CorelXara-derived technology possibly grafted into Acorn Web browsers.

CorelXara is a PC platform relative of *ArtWorks* marketed for Xara Ltd by Corel Corp. of Canada. When the CorelXara deal was first announced at the end of 1995, many predicted the demise of Corel's popular, but elderly, *Draw* application. Remarkably, *CorelDraw* has mysteriously acquired many of CorelXara's best features and CorelXara itself seems to have taken a back seat. However, Xara's Charles Moir remains enthusiastic about some of the technology built into CorelXara.

One such feature is a powerful but compact vector file format, which Xara people call 'Web' files - Xara has successfully registered the PC file extension .WEB. Basically, Web files can contain vector drawings with most of the features of CorelXara drawings, such as transparency, complex fills, etc. Xara has produced plugins for Microsoft and Netscape Web browsers enabling Web file drawings to be viewed on the Internet and Xara will also propose the file format as a universal Internet standard, alongside JPEG, GIF, etc.

And so on to the Acorn link – Moir tells us that Acorn is interested in adopting the Web file standard for its own selection of browsers. According to Moir, the job of translating the 200K plugin code to the Acorn platform is relatively straightforward. Then all we would need would be a handy upgrade of ArtWorks to CorelXara feature-parity!

Causality Limited

There have been reports that out of half a dozen different operating systems evaluated by Oracle for its NC platform, including the Acorn RISC OS-derived NCOS, Oracle is most at home with BSD Unix. At about the same time, a number of boffins who have been working on projects over the last three years to port BSD operating system components to the ARM platform (RiscBSD) decided to formalise their operation by forming a company called Causality Limited.

Apart from providing cost-effective contracted ARM-based programming and BSD systems development the company seems mysteriously silent, prompting speculation that it is working on a stripped down BSD client for ARM-based NCs, like Acorn's.

From what we have seen of Acorn's NC prototypes, they are great for low-resolution displays such as TVs. However, for example, Digital's prototype StrongARM NC we saw last year at Comdex in Las Vegas, looked a great deal more suitable for desktop productivity type applications. This was because it was running JavaOS, which is modelled on a high-resolution graphical user interface. A development of RiscBSD might be considered by Oracle as a more suitable office applications environment for an ARM-based NC than NCOS, which would be more suitable for multimedia, kiosk or WebTV applications.

All speculation, of course, but the truth will come to light sooner or later. At press time, Acorn could not provide any details.

Causality Limited can be contacted via e-mail at: info@causality.com, tel/fax: 0181-930 7408, WWW: http://www.causality.com

news

Digital provides optimised StrongARM support for the PCI bus

THE PCI (peripheral component interconnect) bus standard is the most widely used personal computer bus standard today. Although it was invented by Intel, Apple has standardised PCI and practically all PCs now incorporate the PCI standard. Clearly, it is essential that StrongARM is accepted in a general-purpose processor role support for PCI and now Digital has provided it.

Digital has produced a core logic chip called the 21285 which optimises the StrongARM SA-110 microprocessor for a wide variety of PCI embedded applications, including inter-networking, office automation, storage control, telecommunications, PC add-in devices and network clients. To support designers, Digital has also announced a toolset to enable developers to build and test StrongARM PCI designs.

"The PCI bus provides the high bandwidth – up to 132Mb per second – that manufacturers need to deliver high-performance products for data-intensive applications," said Matt Theall, PCI bridge product marketing manager for Digital Semiconductor. He added, "Our StrongARM SA-110 and 21285 chips allow designers to take advantage of PCI speeds for demanding applications including network routers and switches, PBX equipment, cellular base stations, storage drive and RAID controllers, intelligent I/O cards."

If you want to have a bit of fun and speculate about Acorn's future plans, this news would certainly help Acorn produce a PCI-based Risc PC if it wanted to. However, PCI technology is now considered mature. Intel has just announced important enhancements to PCI to enable bandwidth-hungry applications, like software-only MPEG2 video decoding or advanced real-time 3D graphics modelling.

Exhibition – first of its kind

THE I.T. ART and Mental Health exhibition was launched on 15th April at the House of Lords. This is a ground-breaking exhibition focusing on pieces of computer artwork created by adults with mental health difficulties. It has been organised by the National Council for Educational Technology (NCET) and sponsored by Inclusive Technology, educational supplier of special needs computer products. The exhibition will coincide with the launch of the new online Special Needs Service from Inclusive Technology."The exhibition demonstrates how I.T. can encourage creativity", said Sally McKeon of NCET. For more details contact Sally on (01203) 416994. The exhibition will be touring the country and dates are as follows:



- Birmingham Central Library — 18 Apr – 6 May 1997
- Electric Frog Cyber Cafe, Edinburgh — 5 – 16 May 1997
- The Link Cafe, Glasgow — 19 – 31 May 1997
- Newcastle Discovery Museum — 2 – 30 June 1997
- Cyberia London — 1 – 25 July 1997 (TBC)
- Coventry Library — 28 July – 1 Aug 1997
- Cafe Surf, Birmingham — 1 – 12 Sept 1997
- Education N Ireland, King's Hall, Belfast — 30 Sept – 1 Oct 1997

Oracle shows Intel-based NC

AT THE Millennium Conference held in San Francisco at the beginning of March, Oracle chief, Larry Ellison declared, "We will never have an Information Age if we rely on the PC. PC penetration in the US is only about 30 per cent, leaving 70 per cent of America disenfranchised." He continued, "The rate of adoption of PCs is going down, not up. The PC is too complex to be a sensible appliance for general use in the home or office." Afterwards Ellison joked: "It's Microsoft versus mankind with Microsoft having only a slight lead."

While Ellison is outspokenly anti-PC, he is not anti-Intel. At the same event, Ellison unveiled the first Intel platform NC. Whether Intel can compete against RISC solutions like those developed by Acorn, remains to be seen. Cynics point out that while PC features have grown year on year, the average cost of the hardware Intel contributes to the PC platform has not fallen as the obligation to buy faster and more complex hardware is perpetuated. For example, the current retail cost of Intel's latest Pentium 200 MMX processor – this is just a chip remember – is more than that at which Xemplar is predicting it will sell its version of the Acorn NC to schools.

Intel cannot, however, ignore the NC. That would be too dangerous. On the other hand, Intel is holding hands with Microsoft regarding the NetPC, a stripped down PC competitor to the NC. If the NC does indeed flourish, Intel will no doubt compete effectively. However, the NC philosophy of hardware independence should mean that what's under the bonnet will be largely irrelevant. Performance and common specifications will be far more important, with price probably the most important factor.

Diary dates

SHOW	DATES	VENUE	FURTHER DETAILS
Wakefield Acorn Spring Show *See show advert & news item*	17/18 May '97	Thornes Park Athletics Stadium, Wakefield	Tel: (01924) 379778 E-mail: show@cumbrian.demon.co.uk
Acorn Southeast Show *See cover disc & PD column*	5 July '97	Collingwood Suite, Stanborough Rd, Welwyn Garden City, Herts	Tel: (01582) 767540. E-mail: acorn show@digibank.demon.co.uk
Acorn World *See news item*	31 Oct – 2 Nov '97	Hall 3 Wembley Exhibition Centre, London	Tel: 0701 0709901
The Midlands Acorn Show	6 Dec 1997	The National Motorcycle Museum,	The ARM Club, tel: 07010-709849

Teletext+ for Risc TV

Octopus Systems has released *Teletext+* for Irlam Risc TV cards as well as most other teletext cards (including Ground Control, Morley, Solidisk, Design IT and Computer Concepts cards). Octopus says Teletext+ makes page access very fast and automatically searches for items of known interest. As well as cacheing the pages and subpages you use, it caches those it thinks you might use and learns which pages are accessed frequently, which some expensive teletext TVs can do. A sophisticated script language allows you to search for hundreds of keywords on hundreds of pages and it can even set an automatic alarm to remind when a selected TV or radio programme is about to start. Teletext+ is priced £39 if you already have a teletext card. It is also available with a Computer Concepts Teletext card for £210 or with an Irlam Risc TV/teletext card for £369. Prices include VAT and carriage. Existing users can obtain a free V6.5 upgrade if they e-mail: teletext@octosys.co.uk quoting their serial number. Octopus on the Web is at: http://www.octosys.co.uk/

Embedded ARM

Chip company, Cirrus Logic, is to use an embedded ARM processor in its new modem chip set which will offer 56Kbits/sec data rates using US Robotics' x2 modem standard. The FastPath 56K chipset also offers the V.80 standard for video-conferencing, full-duplex speakerphone function, the Radish VoiceView protocol and a telephone answering machine function.

Disc Doctor update

A new version of Oregan *Disc Doctor* is now available, able to handle large hard disc drives formatted with the new HFormBeta from ART.

Oregan suggests that existing users of Disc Doctor who have not yet received the free upgrade should return their registration cards to do so. Oregan Disc Doctor is a commercial development of the FSCK disc repair system, as supplied on the StrongARM CD, and features an easy-to-use RISC OS front end. E-mail Oregan at: sales@oregan.demon.co.uk

Wakefield Acorn Spring Show

IT'S GETTING close – we're only a few weeks away from the second Wakefield Acorn Spring Show.

There are now about 80 exhibitors (the web site contains a full list) and visitors can expect to see several launches and new products on show for the first time.

There will be a charity stall sponsored by the WACG and Norwich Computer Services and there is the possibility of a small games area (subject to final arrangements).

Opening times are Saturday 17 May – 10.30am to 6pm, Sunday 18 May – 10am to 5pm. Tickets cost: Adults £3 on day £2.50 in advance, Juniors (age 5-16) £2/£1.50. So to avoid the queues and save money book your ticket before 9 May 1997. The route to the show will be signposted by the AA and car parking is free. See advert for further details.

Website competition

The Wakefield Acorn Computer (User) Group, in association with Acorn User, is running a competition to find the best website. The two categories are:

- Best Acorn Commercial Website – to be awarded by Acorn User
- Best Acorn Enthusiast Website – to be awarded by the User Group

You may vote for one website in each of the two categories via the website competition page at http://www.cybervillage.co.uk/acorn/wakefield/comp.html or via the main Acorn Spring Show pages at http://www.cybervillage.co.uk/acorn/wakefield/show97.html

The closing date for voting is Friday 16 May and the results will be announced at the Wakefield Acorn Spring Show.

Show theatre programme

Saturday 17 May

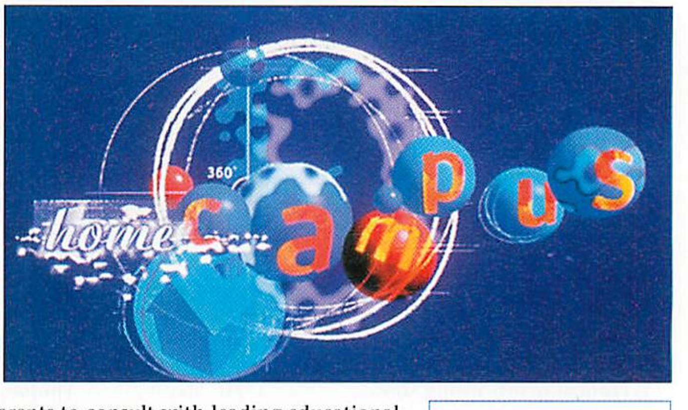
11:00	George Buchanan
11:30	Paul Corke - Web page design and administration
12:00	Chris Cox
13:30	Andy Pierson - Composing music on Acorn computers
14:00	Mike Cook
14:30	David Jackson - Plug in to PCA
15:00	Marshal Anderson - Educational Computing and the future
15:30	Peter Bondar
16:30	Mike Enderby - The Internet
17:00	Prize draw
17:20	Argonet chatting

Sunday 18 May

10:30	David Jackson - Plug in to PCA
11:00	Mike Cook
11:30	Marshal Anderson - Internet the way forward
12:00	Chris Cox
13:30	George Buchanan
14:00	Oregan – The professional Audio Studio on Acorns
14:30	Nigel Brown/Paul Corke - Interfacing PC CD-ROM's to the Acorn platform.
15:00	Peter Bondar
16:00	Prize draw
16:15	Argonet chatting

BT Home Learning Online Service

HOMECAMPUS is a new home learning online service from BT that builds on the success of CampusWorld. It is aimed at families with children of school age – primarily secondary school age – who are committed to contributing and supporting the learning process in school and at home.



Initially there are two main areas, 'parents' and 'kids'. Key features of the service will include 'Experts on-line', an opportunity for children and parents to consult with leading educationalists. New content will be highlighted on a 'What's New' page, updated weekly. UK News will provide a news feed updated every 20 minutes. Content ranges form careers guidance, through to educational visits to NASA news, and Pets on the Net.

Unfortunately the site uses HTML frames which will restrict many Acorn browsers. The service subscription price will be £4.99 per month and purchase is initially by credit card via BT Shop Online – http://www.btshop.bt.com/

HomeCampus: http://www.campus.bt.com/HomeCampus/

Contacting me

You can contact the news page by writing to me, Ian Burley, at Acorn User, Adlington Park, Macclesfield, Cheshire, SK10 4NP, or by e-mail to aunews@idg.co.uk

NEW! - Epson Digital Camera

High resolution, 24 bit colour digital camera

- High quality colour digital camera - as easy to use as a conventional 35mm compact.
- 24 bit colour sensor providing 16.7 million colours.
- Optical resolution of 640 x 480 pixels - twice that of many other comparably priced digital cameras.
- Connects to RS232 port - no interface to fit.
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- 37mm thread accepts camcorder lenses and filters.
- Standard 2Mb memory stores up to 60 standard resolution (320 x 240) pictures, or 30 high resolution (640 x 480) pictures, or any combination.
- Optional 2Mb and 4Mb memory upgrades, which allow up to 200 pictures to be stored.
- Tripod mounting boss.



Package includes our *Snapshot* application software, allowing you to quickly download pictures and view them as thumbnails. Selected pictures can then be easily saved as either Sprite or JPEG files.

Introductory price £499, including carriage and VAT. Includes camera, a set of batteries, serial lead, all necessary software, and manual.

24i16 Multimedia Card

Combined 24 bit digitiser and 16 bit sampler



- Advanced 24 bit video digitiser with stereo 16 bit sound sampler.
- Captures brilliant still images from any S-VHS or composite video source, plus superb Replay movies, and hi-fi audio.
- 1Mb framestore captures still images at full PAL resolution, 768 pixels x 576 lines.
- Replay movies (including sound) can be recorded, image size and frame rate are fully adjustable and are limited only by hard disc and system bandwidth.
- Sound sampler records at sample rates up to 48kHz.
- Hardware video scaling and anti-aliasing, plus real-time control of brightness, contrast & saturation.

Package price £472.94, including carriage and VAT. Includes expansion card, all necessary software, and comprehensive manual.

ColourMobile

Motorised 24 bit colour hand scanner



- 24 bit colour scan head providing 16.7 million colours.
- Resolutions from 100 to 400 dpi (interpolated).
- Connects directly to bidirectional parallel port - no interface to fit.
- Works with printers, dongles, and parallel CD-ROM drives.

"Intuitive and remarkably easy to use... scans are outstandingly sharp with excellent colour accuracy... What more can I say?" - Archimedes World.

"Operation is extremely easy... the results were excellent..." - Acorn Publisher.

"The detail is impressive... this is a good scanner for schools and home DTP users." - Acorn User.

Special price £199, including carriage and VAT. Includes scanner, interface, all necessary software, and manual.

For the Complete Picture...

Irlam Instruments Ltd, Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex, UB8 3PH. Tel/Fax 01895 811401. Email: sales@irlam.co.uk

Please note: All products require RISC OS 3.1 or later, a hard disc, 2Mb RAM minimum (4Mb recommended). Check suitability for your computer before ordering. All hardware products come with a full 1 years guarantee. E & OE.

Access

VISA

Microsoft buy WebTV?

Just as this magazine was going to press we got the shock news that Microsoft was proposing to buy the US company WebTV valued at about $425 million.

Is this an Acorn story? Not exactly but it is important to the Acorn market. When the concept of the NetComputer was first mooted by Oracle's CEO Larry Ellison the idea was rejected by Microsoft's Bill Gates.

When the NC idea caught on, Bill Gates claimed he had a better product, first with the SIPC and then the NetPC — a low cost PC for Internet access. All these moves were, of course, designed to delay the take-up of the NC which would cut into Microsoft's business and consumer markets in a big way.

However news has been filtering through that the Intel/Windows-based NetPC is actually incapable of meeting its design criteria. And now, suddenly, Microsoft buys WebTV, claiming it's part of their long-term strategy but merely confirming that the NetPC is not viable.

Although WebTV does not conform to the true NC standard it is a machine that uses TV technology plus a computer to provide Internet access, but more importantly it is tied to a specific Internet provider, which the NC is not.

WebTV is run by one of Microsoft's founders but is not doing very well having only sold 50,000 units while, by the end of this year, there are likely to be over six million RISC OS-based NCs in use.

Undelete upgrade

Quantum Software has upgraded its *Undelete* utility, which can recover accidentally deleted files from floppy or hard drives, including Zip drives.

The upgrade is quite compact (just 28K) and is available to existing registered users via e-mail at support@quantumsoft.co.uk or via their Web site at http://www.cybervillage.co.uk/acorn/qs/

Undelete costs £18.95 (no VAT) for a single user licence. Multi-user licences start from £70.

Acorn's financial position improves

DURING 1995 Acorn was haemorrhaging at the rate of almost £30,000 a day. The news for 1996 is much brighter, but Acorn is still not out of the woods. The company reduced its operating loss from £10.4 million in 1995 to £2.5 million in 1996. However, revenues have continued to fall, down from £38.1 million to £30 million in 1996. If this rate of decline continues, Acorn might be in a situation where it finds revenues will have halved with the same period just two years ago.

However, the figures simply reflect Acorn's painful but necessary transformation from a semi-volume producer of computers, mainly to a the niche education market, into a technology development company. The Acorn kitchen is full of interesting pies in various stages of preparation. Although Acorn has a lifeline from Oracle, revenue streams from many spin-off projects are yet to be fully realised. Perhaps this time next year we will be able to print a report showing an Acorn Computer Group which is experiencing both growth and profitability for the first time in a long while.

Commenting on the results, David Lee, managing director of Acorn said, "Like many leading UK companies we are now actively exporting our know-how to the manufacturing nations in Asia and across the Atlantic. The past year has shown how well-suited Acorn's technologies are to the interactive networked multimedia markets, particularly Internet appliances and interactive TV. I am glad to be able to report that these results are in line with our recovery programme and I am optimistic about the future for Acorn."

Sales to the joint venture education company Xemplar, which was set up as a 50/50 partnership with Apple UK at the beginning of 1996, are included in Acorn's figures, but Xemplar's total business – which includes Apple products – is accounted for separately. Xemplar's turnover for the nine-month period was £22 million and the loss before tax £31.4 million. Xemplar is now reported to be trading profitably.

ARM Ltd, of which Acorn is a major shareholder (43 per cent), continues to grow at an impressive rate. Turnover for the year was £16.7 million, an increase of 73 per cent over 1995. Pre-tax profits grew more sedately by 43 per cent to £33.7 million. Like Acorn, ARM Ltd has many irons in the fire and these will provide new revenues in the future.

Something Acorn kept rather quiet about in 1996 was the closure of its Australian subsidiary. There was also a financial dispute before the closure. Hopefully we'll be able to report on this in more detail next month.

Acorn World '97 expected to be worth millions more

The 5th Acorn World exhibition returns to the Wembley Exhibition & Conference Centre, Hall 3, from 31st October to 2nd November 1997. It will be sponsored by Acorn Computers Ltd and Xemplar Education Ltd.

There was little doubt that the 1996 show held at Olympia was widely regarded as one of the best yet, so the return to Wembley is slightly surprising. Research carried out by organiser EPS Events Limited indicated that, over the three days of the event, an estimated £2 million was spent by visitors.

"Our research has shown us that many Acorn enthusiasts and schools make their major annual equipment and software purchases at Acorn World", said EPS Director Philip Lowery. "This year at Wembley, we plan to make the event yet more successful and easily and cheaply accessible to visitors from further afield in the UK and abroad".

The first day of the 1997 event will be styled 'Xemplar Education Day at Acorn World' and will develop further the programme of seminars on topics of key interest to teachers from Primary and Secondary schools and Special Needs. The theatre programme, sponsored by Xemplar, will involve IT experts from a broad spectrum of backgrounds. These speakers will be available throughout the day on the Xemplar stand to advise and help visitors.

On Saturday and Sunday Acorn enthusiasts and their families will have a full programme of demonstrations in the theatre sponsored by Acorn Computers, covering DTP, Design & Graphics; Business Applications; Music; the Internet; Video; and Software Development Tools and Techniques. The extremely successful future-gazing double act of Chris Cox and Peter Bondar will speculate further on the development of RISC OS.

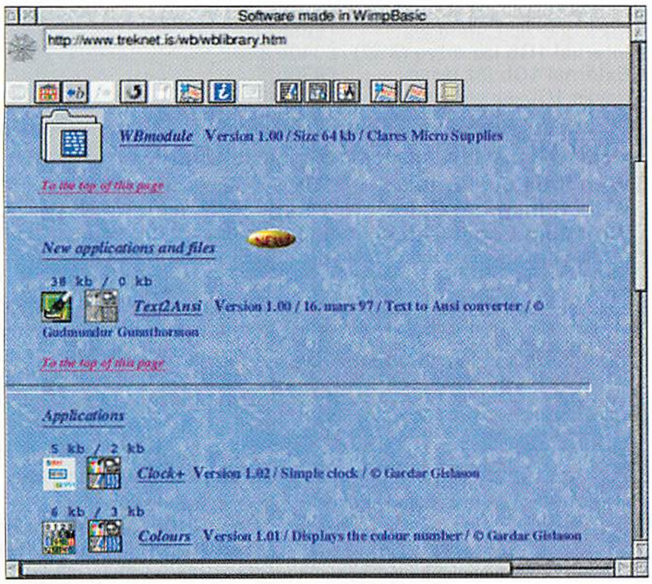
Acorn Computers and Xemplar plan an extensive mix of innovation and value to provide a strong nucleus for the exhibition. High points will include the debut of the eagerly awaited new Risc PC; the launch of Acorn's new portable (currently scheduled to be on sale by November); and the first models of the Network Computer for public sale. Xemplar will be demonstrating the wide range of effective educational solutions for teachers, developed and delivered during the company's first 18 months of trading. Visitors to the stand will be invited to experience the wide range of Xemplar Learning Environments now available to primary and secondary schools across the National Curriculum.

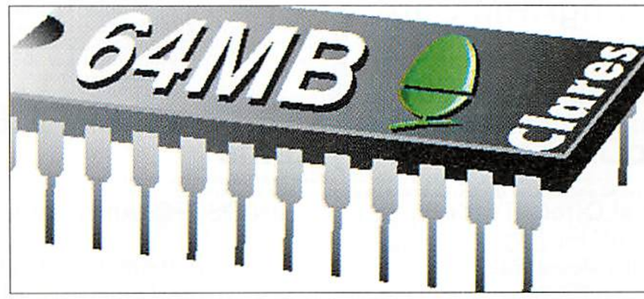
Ticket prices will be: Adults: £9.50 (on the door) or £6 (advanced order), Minors: £7/£5, Families: £22/£16

The dedicated Acorn World web site http://www.eps-events.com/acorn-world which proved so popular in 1996 will be continued. It is currently being reconstructed and is expected to be completed in April.

news

Clares goes memory mad





Can you remember when the BBC Model A had just 16 kilobytes of RAM? Clares Micro Supplies of Northwich has recently started shipping 64Mb SIMMs (single inline memory modules) for the Risc PC. A pair of those in a Risc PC provides a staggering 8,000 times more memory than that old BBC Model A!

Clares guarantees Risc PC compatibility and all parts are rigorously tested before despatch. On top of that, a five-year warranty is included in the price. Memory prices are notoriously volatile but at the time of writing Clares was quoting £525 inclusive of VAT and carriage. Clares is going into memory products in a big way, including upgrades for many types of computer besides Acorns, as well as printers, digital cameras, etc.

Following on from last month's news that Clares has started supplying Iomega Zip drives, the company has contacted us to point out that it is stocking a licensed version produced by Epson, the printer manufacturer. The main difference is the case colour – the Epson version is beige and the Iomega branded version is blue.

Finally from Clares this month, after the release of *WimpBasic* comes a Web site devoted entirely to it. The site is run by Gardar Gislason, a fellow Icelander to WimpBasic author Hoskuldur Hermannsson. The site contains lots of example applications and WimpBasic design files. There will be hints and tips, code segments, etc.

WimpBasic is not needed to download the applications but you will need to download the WBModules file. You only need one copy of this for all WimpBasic applications. Applications include Simon, Hangman, Colours, Scrolling text etc. You can find the site at http://www.treknet.is/wb/ or via a link from the WimpBasic page on Clares Web site at http://www.stcoll.ac.uk/clares/

Clares Micro Supplies, tel: (01606) 48511
or e-mail: sales@clares.demon.co.uk

New products /upgrades

PRODUCT	NEW FEATURES/PRODUCT DETAILS	PRICE	CONTACT
ViVID 7000	• Graphics enhancer for A7000 • Allows larger desktops	£11.50 inc p&p	iSV Products Tel: (01344) 55769
Ovation Pro	• Colour Supplement providing a colour separation facility	Free to users who have bought Ovation Pro before end of April. After that, available as optional extra costing £57.58	Beebug Tel: (01727) 840303
My World resource packs	Available for My World 2	Range from £19 to £25 (ex VAT)	Inclusive Technology Tel: 0161-835 3677
NStore 5	• Now multi-tasking • Automatic printing of targets in reports • Search and update facility • Imports CSV files of pupil details • Easy transfer of pupil data between NStore discs	Basic version costs £44.95. Hard disc version is £69.95 (includes a site licence). Upgrade for existing users is £14.95 (basic) or £29.95 (HD). Special offer – customers purchasing NStore 5 before end of May can buy the Pocket Book II version for only £28.	H. S. Software Tel: (01792) 204519
HardCash	• Payroll package for RISC OS	£99. Special introductory price of £89 until end of June '97 for AU readers. Plus £20 discount on trade in of old Acorn payroll package	RaspSoft Tel: (01274) 671922

Showroom open Mon-Sat 10-18.00 hrs (All prices INCLUDE VAT) Carriage not included

CD-ROM Drives

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card with CDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal ATAPI CD-ROM Drives

Panasonic 8xCD ATAPI (Tray)	£75c
Cable & Fitting Kit	£5a

Above drives are compatible with RiscPC/A7000 only.

Internal SCSI Drives (Tray)

Sony 2x CD SCSI 275ms	£80c
Pioneer 12x CD SCSI 130ms	£200c

External SCSI CD-ROM Drives

Sony 2x CD SCSI 275ms	£135c
Pioneer 12x CD SCSI 130ms	£280c

StrongARM Card Limited Offer to 29 £250 (Carr.£6)

Hard Discs

Carr.: a=£2, b=£6, c=£8

IDE 3½" Bare Hard Drives

Seagate (Connor) 1Gb	£150b
IBM 2.1Gb	£200b

ForA3000/A3010 hard discs see Hard Card section below.

SCSI 3½" Bare Hard Drives

IBM 540Mb	£170b
Fujitsu 1Gb	£250b
IBM 2Gb	£300b

Syquest Removable SCSI Drives

All following Syquest Drives include a Cartridge.

105Mb Internal	£90b	105Mb Cartridge	£29a
EZ230 External	£242c	EZ135Mb Cartr.	£20a
270Mb Internal	£165b	EZ230Mb Cartr.	£21a
270Mb External	£235c	270Mb Cartridge	£40a

Hard Disc Interfaces/Accessories

IDE interface	£85b	50-50C SCSI Cble	£12a
Morley Uncached	£113b	25D-50C SCSI Cbl	£12a
Morley Cached	£165b	SCSI2-50C Cable	£18a
Cumana SCSI II	£175b	SCSI2-25D cable	£18a
PowerTec SCSI2	£195b	50IDC 4-way SCSI	£12a
		50C Terminator	£12a
		50HPC Terminator	£15a
External case/psu	£90c	2nd IDE Drive Kit	£15a

zip/jaz Drives

- zip & jaz Drives work just like hard drives except they are removeable, letting you instantly access files and applications.
- zip drives use 100Mb capacity discs & jaz drives use 540Mb/1Gb discs allowing any number of discs giving unlimited capacity.
- The drives are fast. Data transfer speeds around 1Mb/s for zip drives & >2.3Mb/s for jaz drives - ideal to backup your hard drive.
- Each drive comes with 1 year warranty and a starter disc.
- These drives require a SCSI card that is suitable for removeable devices.

Internal zip drive (5¼")	**£145c**
External zip drive	**£145c**
Single 100Mb zip Cartridge	£14a
Pack of 6 zip Cartridges	£65b
Internal 1Gb jaz drive (3½")	**£340c**
External 1Gb jaz drive	**£430c**
Single 1Gb jaz cartridge	£73a

TopicArt

TopicArtCD1 £20a

This CD-ROM Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + Replay Movies & demos

Floppy discs £8a each

Single disc clipart containing approx. 50 high quality draw format clip art images on each disc, on a single subject. Comes with mono reference sheet. 20 subjects are available now. Please specify when ordering. Site licence is included.

1 General	11 Tools
2 Transport	12 AnimalsGB
3 Costumes	13 Chemical Hazard Signs
4 Entertainment	14 Fire/Emergency Signs
5 Bugs 2 Slugs	15 Hazard Signs
6 Road Signs	16 Safety Signs
7 Sports Equipment	17 Xmas1
8 Sports Figures	18 Xmas2
9 Dinosaurs	19 Xmas3
10 Symbols	20 Xmas4

RiscOS Computer Systems

All include 1yr on-site maintenance. 3yr On-site is available. **Carriage included on computer systems.** For PC Cards see section below. **All machines are single slice & have a backplane fitted except the 4Mb machines.**

Special Offer - Trade-in your old RiscOS, PC, Amiga or Atari computer for a £200 discount!

Computer Model with	14" Monitor	17" Monitor	No Monitor
NetStation (28k modem OR 10baseT Ether)	£725	£1100	£460
RiscPC700 4MHD540	£1275	£1650	£1030
RiscPC700 4MHD540+8xCD	£1345	£1720	£1100
RiscPC700 5MHD540	£1425	£1800	£1180
RiscPC700 5MHD540+8xCD	£1495	£1870	£1250
RiscPC700 10MHD1Gb	£1575	£1950	£1330
RiscPC700 10MHD1Gb+8xCD	£1645	£2020	£1400
RiscPC StrongARM 10MHD1Gb	£1690	£2065	£1425
RiscPC StrongARM 10MHD1Gb+8xCD	£1740	£2115	£1475

Deduct £45 for iiyama MF-8617E or £20 for MT-9017E from 17" prices.

StrongARM (when purchased with a RiscPC700) **£115**

20/20 Finance on Acorn computers - ~20% deposit & 20 interest free monthly payments. Loans from £700(min) - £2000. Subject to status.

QuickLynk (v1.04) £32a

With 5m Local Cable	**£39a**
With 10m Local Cable	**£45a**
With 20m Local Cable	**£52a**

QuickLynk allows you to access another unattended RiscOS computer remotely using the serial port via modems or locally using a cable to connect the 2 computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Transfer rates up to 1.9 kbytes/s can be achieved with older computers, eg. A410, A3000, rising to 11.4 kbytes/s on the RiscPC range. The transfer rate is limited by the speed of the serial port. QuickLynk cannot at present be used directly from programs/command line. Requires RiscOS 3.10 or greater, ring for details.

QuickTile (v1.03) £29a

QuickTile allows you to create posters from ANY RiscOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. New features include the facility to print inverted crop marks or no crop marks. QuickTile can only be used with the RiscOS printer Driver or TurboDrivers.

Requires RISCOS 3.10 or later. Return disc to upgrade for £4. Upgrade from Tiler for £18.

Mail Order - 0161-474 0778 (All prices INCLUDE VAT) The lowest prices without compromise

RiscPC PC Cards

A=Upgrade from ACA42 or bought with RiscPC, B=purchased seperately. Carr.: £8

PCCard	A	B
5x86-100	£350	£460
486DX4-100	£230	£350
486DX2-66	£175	£290
PC Pro (without PCExchange)		£40a
Window '95 CD (Full)		£90a

The above can be installed directly from CD without previously installing PCDOS/MS-DOS.

RiscPC Upgrades

Carriage: £3 for Sound Cards

StrongARM Upgrade*	£250b
2nd Slice with PSU	£116c
2nd Slice without PSU	£90c
YES 16 bit Mozart Card	£70a

Memory

The current price trend is up as at 03/03/97. Following prices strictly whilst stocks last.

RiscPC/A7000 SIMMS

4Mb	£25a	8Mb	£33a
16Mb	£70a	32Mb	£Callb

RiscPC VRAM

1Mb 2nd user	£45	2Mb	£100
1-2Mb u/g (exchange)			£80

Call for details of memory for other models.

Monitors (Carriage £10)

Older computers will require an adaptor	£12
AKF50 14" 0.28dp	£245
Ilyama MF-8617E 17"	£575
High spec FST Tube with 0.26" dot pitch	
Ilyama MT-9017E 17"	£600
Very High spec Diamondtron tube, 0.25" stripe	

Printers (Carriage £8)

Canon BJC-240	£175
Canon BJC-4100	£200
Canon BJC-4200	£225
Canon BJC-4550 (A3)	£360
Canon BJC-620 (720dpi)	£295
HP LaserJets Printers	£Call

Add £47 to above printers for TurboDriver

I³ Networking (Carr. £6)

A30X0 EtherLan 102	£140
Archi EtherLan 514	£140
RPC/A7k EtherLan 602	£120

Add £17 to above prices for Access+.

Portable Computers

Carriage: a=£2, b=£6, c=£8

Pocket Book II (1Mb)	£305b
Psion	**3c**
1Mb RAM	£320c
2Mb RAM	£385c
AutoRoute Express UK/Eire	**£60a**

- one of the best packages for the PB/3a

A-Link	£59a	PC Serial Link	£60a
Parallel Link	£34a	Mains Adaptor	£18a
128k RAM SSD	£48a	512k RAM SSD	£135a
256k Flash SSD	£53a	512k Flash SSD	£89a
PB/Ps3 Games	£Calla	PBII/Ps3a Games	£38a

Hardware Upgrades

17" Monitor Dust Cover	£14a
24i16 Card (1Mb)	£450b
Dual Serial Card	£104b
FPA for 25MHz ARM3	£67a
iTV TVTuner+TT (1 only)	£100b
Joystick I/F (Not RiscPC)	£30a
Logitech Mouse (Acorn)	£26a
Midi Max Card (CC)	£79b
Movie Magic (1 only)	£210b
RiscTV Card (Irlam)	£285b
RiscTV Teletext option	£45a
Scart Cable (9 or 15 pin)	£12a
Serial Upgrade (A3000)	£27a
2 x 25W Speakers	£30b
2 x 80W Speakers	£40b
Videodesk (Irlam)	£1165b

Hard Cards/Multi-Pods

See top for other hard discs. Carriage £8

A3000/A3010 Hard Cards

340Mb	£Call
420Mb	£Call

Scanners (Carriage £8)

ScanLight Video 256	£215

Epson Colour Scanners, include !TWAIN & ImageMaster for RiscOS. Bundles include CorelPaint & OCR software for PC's/PC Cards.

GTx-5000 Para bundle	£369
GTx-5000 SCSI bundle	£499
GT-5000 SCSI (bare)	£369
GTx-8500 Para bundle	£630
GT-8500 (bare)	£529
GTx-9500 Para bundle	£760
GT-9500 (bare)	£679

Modems (Carriage £8)

14.4 Voice Sportster	£115
33.6 Voice Sportster	£180

Modems come with a 9-25 PC wired cable. A3000/Archi require an Archi wired cable.

ANT Internet Suite II	£115a
ArcFax	£32a
Dual Serial Card	£104b
9-25 Archi or PC Wired Modem Cable	£12ea.
3-way Serial T-Switch (incl. comm. cable)	£32b

Printer Consumables

Carriage: £2 for Cartridges, £8 for Toner

BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
BJ-210 (BC-05)	£28	BJ-240 (BC-06)	£Call
BJC-600 Series		BJ-300 (BJI-642)	£16
BJI-201HCbk Black	£10	**BJC-4000 Series**	
BJI-201bk Black	£6	BCI-21Bk Black	£9
BJI-201C/M/Y	£8 ea.	BCI-21C Colour	£17
BJC-800		BC-20 Fast Black	£28
BJI-643 Black	£18	BC-22 Photo Cart	£34
BJI-643C/M/Y	£23 ea.		
HP DeskJets-500 ser.		**HP DeskJets 600 ser.**	
Mono	£23	Mono	£25
Colour	£25	Colour	£27

Epson Stylus Colour	Black £16/Colour £26
Epson Stylus Colour II	Black £20/Colour £26
C3903A Toner (LJ5P)	£64
EP-L Toner (LBP-4/HP LJIII)	£64
HP 92274A Toner (HP LJ4L)	£60
Swift24 Mono/Colour Ribbon	£8/£16

Terms & Carriage

Carriage: To benefit personal callers to our showroom carriage is itemised seperately. The carriage indicated is for single items. Please call us for total carriage when ordering more than one item since it is not cumulative.
Terms: All prices include VAT except books. Carriage is not included unless otherwise stated. Carriage charges apply to mainland UK (excluding remote areas, Scottish Highlands, Chann Isles, IOM), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Educ Inst official orders accepted. E&OE.

Where to Find Us



Books (No VAT)

Carriage: a=£2, b=£6, c=£8,

Acorn RISCOS3 PRM's	£99.95c
Acorn Volume 5a PRM	£29.75b
Acorn BBC Basic VI Guide	£19.95b
Acorn RiscPC Tech Ref Manual	£49.95c
ArtWorks Made Easy (Dabs)	£5.00a
Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
RiscOS 3 First Steps (Dabs)	£5.00a
Wimp Programming for All (Beebug)	£10.95a

CD-ROM's (Carriage £2)

CD software for RiscOS

ArtWorks on CD (CC) (Carriage £6)	£110
ClipArt CD 1/2 (CC)	£21 each
Dinosaurs (Microsoft)	£44
Dune II (Eclipse)	£41
Granny's Garden CD	£32
Guardians of the Greenwood	£51
Hutchinsons Encyclopedia	£20
Kiyeko	£Calla
Musical Instruments (MS)	£44
My 1st Incred. Amazing Dictionary (DK)	£36
PB Bears Birthday Party	£37
RiscDisc Vol 1 / 2 CD	£17 / £20
Simon the Sorcerer CD	£41
The Way Things Work (DK/IMS)	£44
Ultimate Human Body (DK/IMS)	£44

Applications

Carriage: a=£2, b=£6, c=£8

Acorn C/C++ (Acorn)	£230c
Advantage (Longman)	£52a
ANT Internet Suite (ANT)	£115a
ArcFax (David Pilling)	£32a
ArtWorks (CC)	£100b
Card Shop (Clares)	£23a
Chameleon 2 (4Mation)	£39a
Compression (CC)	£34a
DataPower (IOTA)	£105b
DaVinci (Spex)	£Calla
Disc Rescue 2 (Look)	£45a
Easy C++ (Beebug)	£110a
Eureka v3 (Longman)	£110b
FireWorkz Pro (Colton)	£164b
Font Directory2 (Look)	£42a
Font FX (DataStore)	£12a
Hatchback (4Mation)	£38a
HTML Edit 2 (R-Comp)	£44a
ImageFS2 (Alt Publ)	£44a
Image Outliner (IOTA)	£54a
Impression Style / Publisher	£80b / £135b
Impression Graphics Loaders (CC)	£40a
Impression Text Loaders (CC)	£30a
MacFS / MacFS Lite (CC)	£89a / £53a
Ovation Pro	£Call c
PC Pro (without PCExchange)	£40a
PC Pro (with PCExchange)	£50a
PC Sound Professional (R-Comp)	£25a
Personal Accounts (Apr)	£44a
PhotoDesk Light (Spacetech)	£120b
PhotoDesk2 (Spacetech)	£245b
Prophet (Apricote)	£171b
Resultz (Colton)	£88a
Rhapsody (Clares) v3	£87a
S-Base2 Personal / Developer	£57c / £115c
ShapeFX (Datastore)	£12a
Sibelius Junior	£50a
Sibelius 6 / 7	£206b / £950b
Sleuth2 (Beebug)	£110a
SparkFS (Pilling)	£24a
Speech 2! (Superior)	£24a
StrongGuard (ARMClub)	£24a
Studio24 Pro (Pineapple)	£130b
Textures (R-Comp)	£10a
Touch Type (IOTA)	£45a
Top Model (Spacetech)	£115a
TurboDrivers Canon/HP or Epson(CC)	£50a
Vector (4Mation)	£86a
Web Designers Toolkit (R-Comp)	£27a

Games (Carriage £2)

Alone in the Dark (Krisalis)	£30
Birds of War (4D) 2Mb	£27
Break 147/Superpool	£27
Carnage Inc (4D)	£20
Chocks Compendium	£27
Crystal Maze (Sher)	£28
Cyber Chess (4D)	£27
Darkwood (Eclipse)	£28
Drifter (4D)	£34
Dune II (floppy) (Eclipse)	£31
Empire Soccer (Maglm)	£27
E-Type Compend. (4D)	£20
E-Type 2 (4D)	£27
Fire & Ice (Times Warner)	£22
Global Effect (Eclipse)	£30
GODS (Krisalis)	£10
Haunted House (4D) 2Mb	£20
Holed Out Compendium	£20
James Pond (Krisalis)	£10
Krisalis Collection	£25
Lotus Turbo Chall2 (Kris)	£22
Magic Pockets (Reneg)	£23
Play it again Sam 2/3	£22 each
Populous (Krisalis)	£25
Real McCoy 2/3/4/5	£27 each
Repton 3/4 (Superior)	£22 each
Sally & Wally (Oregan)	£23
Saloon Cars Deluxe (4D)	£27
Scrabble (US Gold)	£24
Sim City 2000 (RPC/A5k)	£34
Simon the Sorcerer 2Mb	£35
Spobbleoid Fantasy (4D)	£27
Starfighter 3000 (Fednet)	£27
Stunt Racer 2000 (4D)	£27
Tanks (Werewolf)	£23
Time Machine (4D)	£20
Virtual Golf (4D) 2Mb	£27
Wolfenstein 3D	**£20**

Educational (Carr. £2)

10/10 Series £14 each

Early Essentials (over 7), English (6-16yrs), French (8-16yrs), Junior Essentials (5-11), Maths (Number) (6-16), Maths (Algebra) (6-16), Maths (Statistics) (6-16), Maths (Geom'y) (6-16), Spelling (over 9), Essential IT, Geog.,

Fun School 3 (under 5, 5-7, or over 7)	£14
Fun School 4 (under 5, 5-7, or over 7)	£14
Granny's Garden (floppy) (4M)	£27
Maths Circus (4Mation)	£29
Naughty Stories Volumes 1 or 2	£58 each
Playdays (Gamesware)	£24
Ridiculous Rhymes	£Call
Rosie & Jim - Duck loses its Quack	£10
Rosie & Jim - Jim gets the sneezes	£10

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Acorn Centres of Technology

MAY 97

A revolution in resolution

AS I WROTE in last month's graphics page, Canon has made a very significant step in inkjet printing with its 'Photoreal' technology. Being able to vary the opacity of the printed dots and by overlaying the available colours, Photoreal Canons have enhanced colour reproduction without needing to increase resolution.

Improving the quality of output from colour inkjets by alternative techniques like Photoreal seemed to be the only way forward for a technology pained with the problems of simply upping the number of dots per inch. These alternatives also include six and seven colour printing, dry wax printing and resolution enhancement as seen on lasers.

Epson, who brought us the ground breaking 720x720dpi Stylus Colour, decided against anything exotic for the successors to the Stylus Colour 500 and Stylus Colour Pro. Instead it has engineered a 1440x1440dpi print engine making it the first colour printer in the £300-400 price bracket to resolve over a million dots per square inch. These new piezo-electric inkjets can actually print over two million dots per square inch, matched only by a few exceptional lasers.

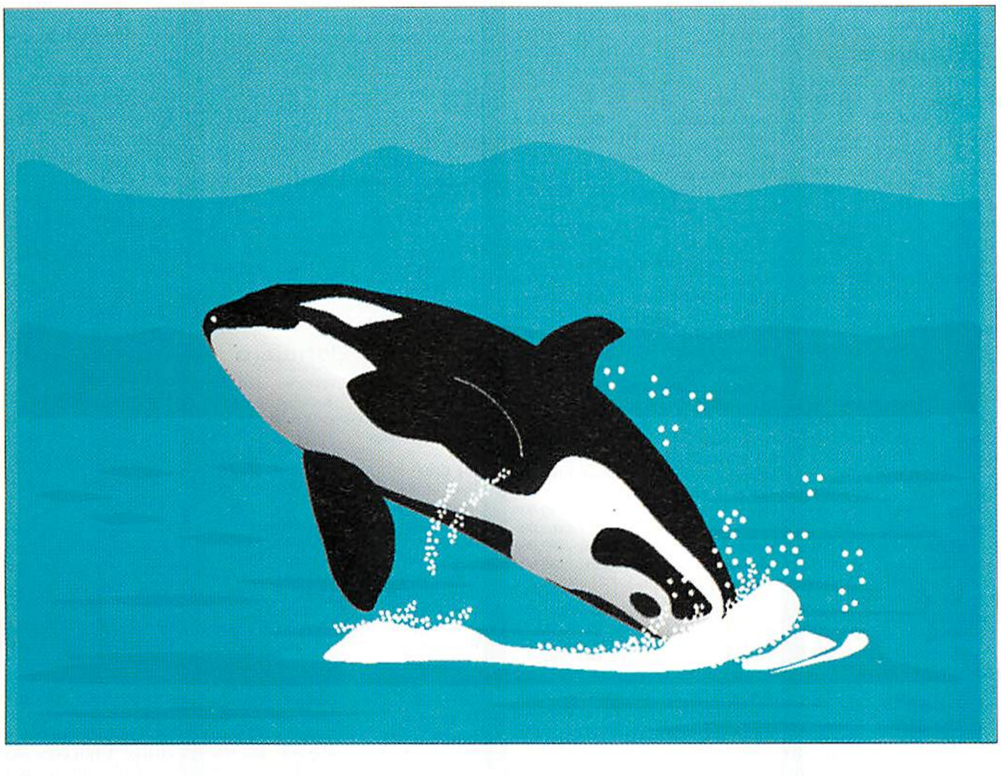
The Stylus 600 and the faster but more expensive 800 both need special 12p per sheet paper to print the maximum resolution, and on this paper the results are quite astonishing. Unlike the Canon Photoreal printers there should be no major delay in the arrival of an Acorn driver and the speed issue which plagued Epsons in the past has been remedied by a seven page per minute, triple motor printhead. The noise is the only disadvantage with the new 800 which is unexpected as the outgoing Stylus Pro was much quieter.

Anyone considering a colour printer for under £400 still has a hard decision to make. By the time you read this, the Canon BJC-4200 and 4550 Photoreal drivers will hopefully be available as promised and the benefits of the BJC-4550's Photoreal A3 capability versus the Stylus 800's speed and resolution create quite a dilemma. Hewlett Packard's superb 850C cannot be forgotten either, compounding the issue. My recommendation is see them all at work for yourself and always add running costs into the equation.

The market now offers DTP and graphics users extraordinary quality colour printing for a small outlay. It should not be too long before fast, plain paper, near-lithographic quality printers occupy the space where our dot matrixes and daisy wheels used to sit.

Pic of the month

JO LENTY from Warwickshire is this month's worthy recipient of the £20 jackpot. This wonderful *ArtWorks* graphic was composed of just 75 objects and is a perfect example of powerful vector imagery exploiting ArtWorks to its full. Many congratulations to Jo.



News from the font front

iSV's No Dropout Technology (NDT) has been applied in the creation of a 1,500 font CD-ROM on sale for just £46.50. On lower resolution printers small NDT fonts don't lose thinner lines and serifs, (known as dropping out) but because these are not hand tinted or hand scaffolded fonts, many of these varieties in the 139 font families supplied on the CD will be of inferior quality and not exact matches to the typographic standard equivalent.

This product represents good value for money but as was discussed in the graphics page earlier this year, the highest quality fonts such as those tailored by the Electronic Font Foundry and Look Systems costing the same figure of £50 for just 10 or 15 typefaces, are the only way of ensuring originality, quality and accuracy.

DTP of the month competition

Breaking with tradition a little, we have decided to open the pic of the month competition to DTP users. Anything from personal letterheads to magazine page-layouts designed on Acorn machines will be considered for the prize or featured as a part of a small DTP tutorial on the page. Original files of any variety will be accepted.

Get well soon

Following a recent period of illness in hospital, I would like to wish Chris Hornby MD of Spacetech, a swift and full recovery.

Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to augrafix@idg.co.uk.

RiscPC+Upgrades

RiscPC 600(arm710)
4M/HD540 14"mon. £1299.00e
RiscPC 700(arm710)
5M/HD540 14"mon. £1449.00e
10M/HD1Gig 14"mon. £1599.00e
RiscPC S/A
10/HD1Gig 14"mon. £1715.00e
10/HD1Gig 8xCD 14"mon. £1765.00e
For 17"AKF90 monitor Add £376.00
For CDrom Drive 4x Add £50.00
For CDrom Drive 8x Add £99.00
All Computers are built and tested before dispatch with printers and software purchased installed as required at no additional cost
486-DX2-66 PC Upgrade £292.00d
486-DX4-100 PC Upgrade £351.00d
586-100 PC Upgrade £468.00d
Deduct £117.50 off 486 upgrades when purchased with RiscPC
PC Exchange £29.00a
Windows 3.1 + DOS 6.22 £59.00c
Access+ Card £139.00c
Strong Arm upgrade £292.00c
Audio Mixer £40.00a
Movie Magic £279.00c
Second Slice *no PSU* £90.00d
Sound Card £69.00b
RiscPC 4Mb RAM £20.00b
RiscPC 8Mb RAM £45.00b
RiscPC 16Mb RAM £89.00c
RiscPC 32Mb RAM £179.00c
RiscPC 1Mb VRAMsimtec £81.00c
RiscPC 2Mb VRAMsimtec £116.00c

Archimedes Comp

A7000 (1.6 Floppy 4 Mb expandable to 130Mb ram, Arm 7500 AKF60 M/S Mon, 540Mb HD, on site 12 months warranty)
4M/HD425 14"mon. £1099.00e
For 4xCDrom Drive Add £50.00

Pocket Book

Pocket Book 2(256k) £239.00c
Pocket Book 2(1MB) £319.00c
A-Link £59.00b
M-Link £59.00b
PC-Link + £59.00b
Parallel Link £29.00a
Power Supply £14.50b
Flash SSD 1MB £119.00c

Hardware Upgrades

Casio QV-10a Camera £399.00d
Casio QV-100 Camera £499.00d New
Casio QV-Mains Adaptor £15.00a
Casio QV-10a/100 Con.Kit £116.00c
Hawk V9 MkII £194.00c
Lark Midi Sound-Sa. £172.00c
Midi Max £78.00c
Risc OS Upgrade Chips £36.00a
RiscTV *(Irlam)* £295.00c
Teletext module for above £45.00a
SCSI 16bit £95.00c
SCSI 2 32bit £205.00c
TV Tuner £99.00c
TV Tuner + Teletext £159.00c

Data Storage

A30x0 CD Atapi interface £84.00b
Quad External Atapi CD £176.00c
A30x0 IDE interface £88.00b
A30x0 IDE/CD interface £104.00b
all above include HD fixing kit
IDE 2.5"
60mb £69.00c
350mb £129.00c
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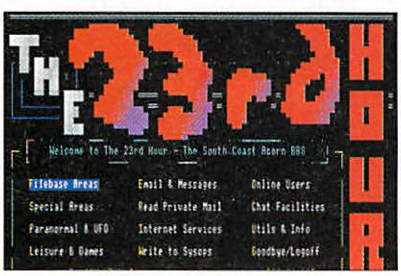
comms

High time to call The 23rd Hour BBS

ONCE UPON a time down in Dorset there were three students all doing A-level computing on the same course. Now they have spread out in their various ways but the BBS they have created keeps them together. The 23rd Hour BBS is housed in Wimborne with Steve Smale, now studying for a National Diploma in Audio Visual production. Steve deals with technical and day-to-day aspects of the BBS.

Mike Whalley is now employed in the computer industry and looks after programming and PC Support for the BBS when he wants a break from working with computers all day.

The final member of the trio is Neil Dean, now at Essex University studying Electronics with Audio, contrasting nicely with his 23rd Hour speciality of designing and maintaining the visual aspects of the companion Web site and hosting the Guitar area.



The 23rd Hour BBS as seen at the 23rd hour

The 23rd Hour BBS has a high-tech yet arty look thanks again to ANSI artist David Hart, and Steve has made considerable use of dynamic effects, moving displays and function selector bars. This requires a fine balance between what looks good and what you can get away with in response time – The 23rd Hour BBS just strikes that balance.

A Risc PC 600/710 with about 1Gb of outboard SCSI hard drives powers the *ArmBBS* system with single line access to a US Robotics Sportster Voice modem. It's hoped to add another line later this year, and by now Steve will have added telnet access from the Internet at weekends from 2-4pm and again at 7-8pm.

Special Interest areas include Paranormal and UFO Encounters, Cover-up conspiracies and Christian areas, as well as a good selection of online games. The filebases contain over 138Mb of general files and there's a considerable Paranormal Filebase section. Features in development include new user interfaces in the form of a RISC OS-like windowed filer for BBS up and downloading, and a simple to set-up-and-use Fido and e-mail system called *!Despatch*.

The three Sysops are working to make The 23rd Hour BBS one of the new breed of Acorn BBSs that look attractive and function well. With increasing competition from the Internet, the only solution may be to join forces with it, and the combination of an efficient BBS combined with an attractive Web site will give users the best of both worlds.

The 23rd Hour BBS
(01202) 602776
http://www.the23rdhour.demon.co.uk
telnet://the23rdhour.demon.co.uk

What's a newsgroup?

THE ACORN newsgroups are part of the world-wide Internet distributed discussion system called Usenet. Articles or messages are posted by users of a wide variety of computer systems and networks to the various newsgroups that are classified hierarchically by subject. The articles are then broadcast to readers on other computer systems and news servers around the world.

Some newsgroups are designated as being moderated, and this means that submissions must first be sent to a human editor or moderator for approval before they can appear in public. The e-mail address for submissions to a moderated group is usually stated at the foot of its articles. The moderator chosen at the time of creation of the newsgroup may appoint a successor.

So to submit a posting, such as a club announcement or software upgrade details to the *comp.sys.acorn.announce* newsgroup, you send it by e-mail to csaa@art.acorn.co.uk, where the moderator will decide if it meets the criteria for that group and place it in the distribution if it does. In fact your software will automatically redirect messages to moderated newsgroups to the moderator.

So how do you decide to which newsgroup to write? When newsgroups are initiated, a democratic process establishes a charter that describes the subject areas to be covered. Your news reading software may be able to fetch these charters for you, or you can get them by FTPing to ftp.uu.net/usenet/control/ (a huge directory!) and following the routes. Try comp/comp.sys.acorn.announce.

Here are brief summaries of the Acorn groups from the charter documents:

comp.sys.acorn.advocacy	Why Acorn computers and programs are better
comp.sys.acorn.announce	Announcements for Acorn and ARM users (Moderated)
comp.sys.acorn.apps	Acorn software applications
comp.sys.acorn.extra-cpu	Extra CPUs in Acorn computers
comp.sys.acorn.games	Discussion of games for Acorn machines
comp.sys.acorn.hardware	Acorn hardware
comp.sys.acorn.misc	Acorn computing in general
comp.sys.acorn.networking	Networking of Acorn computers
comp.sys.acorn.programmer	Programming of Acorn computers
comp.sys.arm	The ARM processor architecture and support chips
comp.binaries.acorn	Binaries for Acorn machines (Moderated)

Contacting me

Keep sending interesting URLs for the next yoUR List to me, David Dade by e-mail to david @arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

Mind that URL

A useful service for Web watchers is provided by the URL-minder, which will let you know when selected World Wide Web pages have been updated. To register for this free monitoring service, just submit the URL to be watched and your e-mail address.

URL minder will monitor the Web page and send e-mail whenever the target page has been updated. At the URL-minder site, you can register more than one page, list all registrations and cancel a request at any time.

The URL-minder
http://www.netmind.com/URL-minder

Show debut for TriLink

Toby MacKenzie of Bajorasoft has dropped me the hint that *TriLink*, a low-cost comms terminal software package is to be released at this summer's Southeast Acorn Show. TriLink's easy-to-use front-end and terminal emulation will shrink a user's learning curve down to 10 minutes.

Bajorasoft will be demonstrating TriLink at its show stand and expect to be offering the software together with the Sportster Flash modem. The Southeast Acorn Show is on Saturday 5th July at The Collingwood Suite, Stanborough Road, Welwyn Garden City, Herts.

For Show information, e-mail: acornshow@digibank.demon.co.uk

QTHs from QRZ!

Described as the Internet's most popular Amateur Radio site, qrz.com was born on the Internet newsgroup now called rec.radio.amateur.misc. Fred Lloyd's US site features a Ham Radio callsign search engine which allows you look up the registered station address — or QTH in Amateur Radio parlance — of a known callsign holder.

This system allowed me to find the address of an old friend from training course days whose callsign I could remember. The QRZ! Callsign Database is also available on CD-ROM.

The QRZ! Callsign Database
http://www.qrz.com/cgi-bin/webcall

public domain

Linker

Just released is a new Digital Video Effects (DVE) generator called *Linker*. This PD demo shows the potential of the complete package, using effects like rotoscoping, 'tweened' convolution, gleam bars, mesh distortion, user-definable 'mouse trails' and transparent-tinted-motion trailed 3D rotation and distortion. If video is your thing, check it out – file 018433 on the Digital Databank BBS.

MapIt

Check David Sharp's excellent range of software which can be found on his Web site at http://www.geocities.com/Silicon Valley/Park/4119. David's utilities include the very handy *MapIt* program which performs automatic filetyping using DOS extensions on PC discs. It also works with the Guesser application which identifies files from their contents.

PD library decline

Several years ago I featured a different PD library in almost every issue, but with so many people on the Internet these days, they really seem to be in decline. If you run a library that you'd like to see featured in the column, drop me a line with as much information about your outfit as possible. It seems such a shame to lose the libraries that were the life blood of the PD scene just a few years ago.

APDL competition

The winner of the 1996 PD and Shareware competition is Graham Crow with his *MenuBar 2*. Graham picks up prize money of £100, with £50 and £20 prizes going to Alisdair McDiarmid (for *Autosheet*, reviewed in this column) and Nicholas Marriot (for *EasyAnim*), in second and third places.

The competition will be run by Dave Holden again next year, so get working on your entries. The winning programs and a number of other entries that were just pipped at the post, can be found on the APDL 1996 competition disc which costs £2. Proceeds go towards next year's competition. Well done to David Holden for his continued support for the Acorn PD scene.

Revelation



FOLLOWING a mention of the Revelation demo party last month, things have really taken off for this new, UK-based event. It's to be held at the new Acorn South East show in Welwyn Garden City, Herts on July 5. The party will be an opportunity to meet the demo crews and see what they can do with the StrongARM. A central feature of the meet is the main demo competition and accompanying music and graphics competitions. Anyone can enter by bringing along their work on the day or sending their entries to the show organisers before July 5.

The hot news is that Acorn is now heavily involved and sponsoring the event. A range of great competition prizes include a fantastic digital camera, a StrongARM processor and a Pocketbook. With Acorn putting its support in, it's just down to all the coders out there to get moving and show what a RISC OS machine can do. Acorn will be publishing and distributing the entries to dealers to show off the technology. So whether you're an experienced demo coder or have never tried this sort of thing before, please join in and demonstrate the kind of graphics the Acorn can produce. Regular readers of this column will know that I've long encouraged Acorn to make use of the wealth of talent in the PD scene and this latest move must be commended.

The graphics and music competitions should also prove to be very popular and prizes are currently being arranged for these categories. *Protracker* (played on QTM) or *Digital Symphony* modules can be entered for the music competition with the winner receiving the brand-new MIDI sequencing package, *MelIDI*. Prizes for the graphics competition have yet to be announced but are likely to be rather special. If you fancy your chances with *ArtWorks*, *Photodesk* or good old fashioned *Paint*, get drawing now.

I'm really hoping that this is the event to kickstart the scene and encourage people to start producing the computer graphics and music of which this computer is capable. The PD scene is often the root of future developments, with the games scene in particular that could receive a boost. Expect a full event report on these pages after Revelation 97 has taken place.

Full party and show details can be found in the official party text release on this month's cover disc, and the latest word is on the Web site at: http://www.digibank. demon.co.uk/party/ rev.htm

Locus

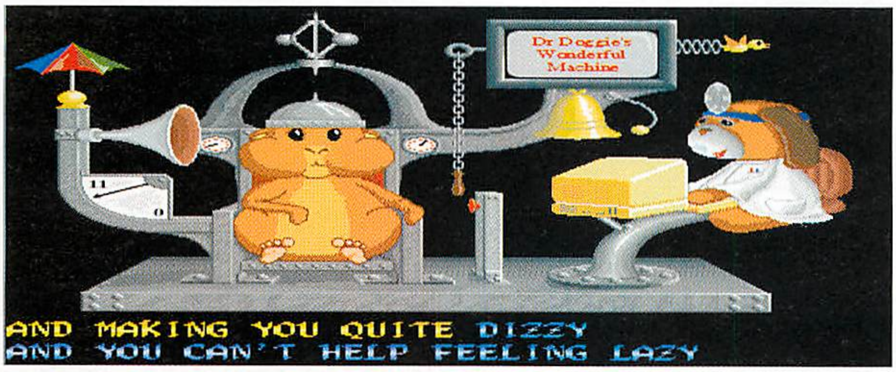
THIS MONTH'S stories couldn't possibly be more contrasting – a demo party, an insane disc magazine and a couple of highly useful educational tools, the first of which is by Richard Sharpe. *Locus* is a graph plotting program that mimics the abilities of that essential A-level mathematics tool, the graphic calculator. Released by Richard as shareware, Locus comes as a much cheaper alternative to LCD screen calculators, with the registration costing £16.

Taking the idea of graph plotting one stage further, Locus provides a relatively simple interface for general plotting as well as a whole host of features for the expert user. Richard describes it as being "sophisticated enough for use with A-level and post A-level students and straightforward enough to be used at late primary or early secondary level". This becomes evident from just a quick try of the software. It's possible to use the basic functions with ease, but there's still plenty to get your teeth into. A more detailed look reveals a large number of more in-depth features.

Of particular note are the extensive import and export facilities and the statistical analysis options. Being able to import data sets in three formats (text, CSV or SID), and save out data in five formats is a good illustration of the hard work put into each section of this package. All the more detailed features are well implemented and cover the main areas required by a package of this kind.

The registration price does seem a little high – and judging by some of the documentation, seems to have been raised from a more realistic £10 fee – but compared to the hardware alternative of a graphic calculator, its definitely worthwhile. Contact Richard Sharpe at 5 Camberwell Terrace, Leamington Spa, Warwickshire.

Lunchtime



THE SIXTH issue of *Lunchtime* disc magazine is finally upon us and, well, what can I say? It's as crazy as ever. Double-clicking the icon begins a special introduction section that sets the scene for another package of textual fun. Without wanting to spoil the story, I can reveal that everything from cheesy graphics to "real" Karaoke is unveiled, even before the main magazine section is reached. As expected, *Lunchtime 6: DANGER! Unexploded Whippet*, is packed full of articles about anything but computers, with the emphasis on humour. Fans of the earlier issues will not be disappointed.

How else can the magazine be described? Self-indulgent? Quite possibly. Liable to offend? Maybe. Full of in-jokes? Just one or two. Cheesy? It's like Wensleydale, Gromit. But will it make you laugh? Almost certainly.

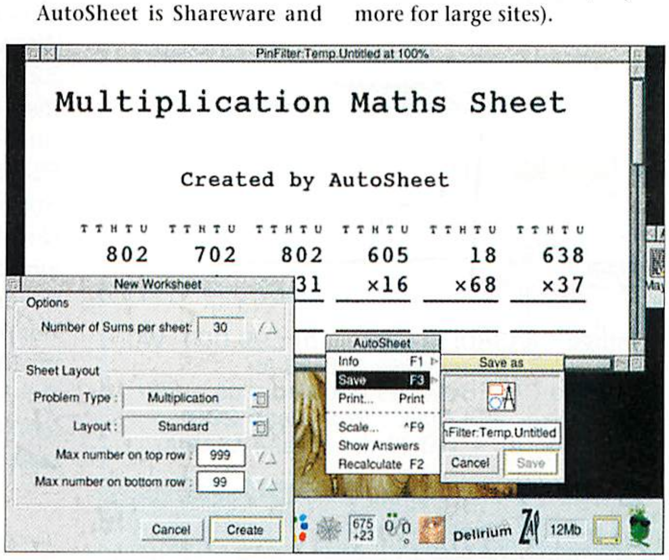
Lunchtime 6: DANGER! Unexploded Whippet can be found on Arcade BBS, or located on disc MAG5 from the Five Star Marketing PD library. Please note that the magazine does include some bad language.

AutoSheet

THE SECOND educational offering is a handy tool for creating sheets of mathematical questions. The package is aimed at primary and secondary education although it seems mainly suited to primary school use. It automatically produces questions selected from a range of types, including addition, subtraction, division, multiplication and magic squares. Using the program is simplicity itself. Just select the type of problems required, and the output window appears immediately, ready to be saved out as a drawfile. A quick selection from a menu adds in the missing numbers for a teacher's answer sheet.

Autosheet is an ideal time-saving tool for teachers and could also be useful for students who want to practise these kinds of problems. The possibilities for this sort of program are limitless. Why not include a difficulty level so the size of the sums could be controlled for different learning levels? At the other end of the scale you could create much higher level sums for GCSE or even A-level use. This would require much more effort on the part of the programmer but it would make an invaluable revision tool.

AutoSheet is Shareware and can be registered by sending the required payment to APDL at 39 Knighton Park Road, Sydenham, London, SE26 5RN. A single-user student licence costs £5, with the teacher registration (for use by one teacher and class) costing £15 and a full site licence at £30 (may be more for large sites).



3D PD?

While the commercial games world is talking about the latest developments using TBA's 3D graphics engine, TAG2, I can report that several PD scene coders are also developing engines. I can't reveal any further details at this point, but we're likely to see at least some PD or shareware releases by the summer. This is great news for coders who'd like to use 3D graphics but don't want to spend an inordinate amount of time developing their own engine. Expect a full details in the coming months.

Wakefield Show

The time of the North's own Acorn show is approaching and it looks set to be as popular as last year. As usual, I'll be there on the Saturday to answer your PD queries. Just ask for me at the *Acorn User* stand.

Kick Off

One of the game types that people always seem to ask me about is football management programs, and I have to say that they are very thin on the ground. Despite regularly enjoying playing five-a-side football, I really can't see the attraction in this kind of game.

However, due to public demand I'll give a quick mention to M.R.Davies' *Kick Off* game. I've been unable to test it as it appears to disagree with my RiscPC, but this could be what Archimedes-owning football fans have been looking for. Kick Off can be found on the February subscription disc from APDL.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk.

CASTLE TECHNOLOGY

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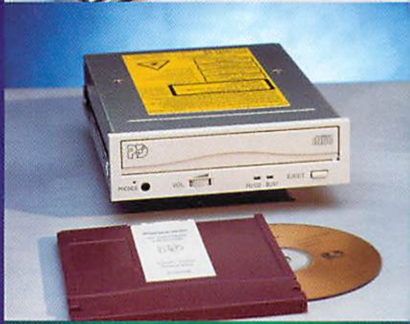
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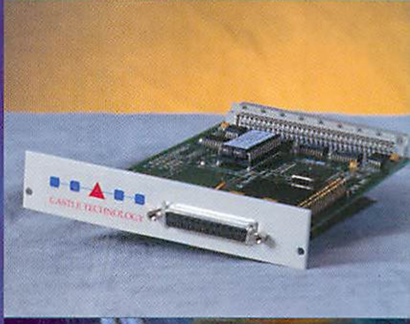














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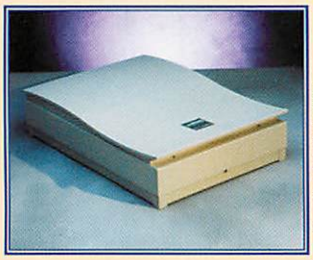
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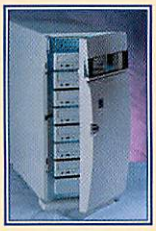
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Panasonic PD	up to 1.1 Mb/sec	650Mb/680Mb	£29 (650Mb optical)	CD-ROM	£345 (£405.38)	£345 (£405.38)	£405 (£475.88)

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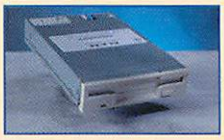
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Splitting the difference

THIS BUSINESS page is different from all the others I have written. Can you spot the difference? No, of course not. Well, it has been produced using a different package. Until recently I've resisted the strong temptation to stick with *Impression* from Computer Concepts. *Impression Style* has served me very well but is beginning to suffer from a general lack of development (StrongARM upgrade excepted) in comparison to other products.

This has forced me to look around at what else is available on the Arc market. I suppose like most users I require DTP some of the time and a competent word-processor the rest. The distinction between the two has blurred considerably in recent years but should be re-examined periodically by all users. In the transition from word-processing to DTP certain things got lost in the move, thus, for example, few DTP packages can number paragraphs very well and the ability to outline has disappeared completely.

Split functions

I have decided to split the functions of word-processing from DTP on my own system. It seems to me that using a DTP package to write a letter is a waste of processing power and is likely to leave me working in a package which was not designed to do exactly what I require. It becomes neither good DTP nor good word-processing but a halfway house.

For that reason I've had another look at *Ovation*, or Ovation Pro, in this case. I did not like the old Ovation and overlooked the new version released last year. Like many I have been waiting for the promised professional features like spot colour and image processing.

While spot colour should be available by the time you read this, only those at the professional end of the DTP market are likely to find it useful. For the rest of us a modern, versatile DTP package is the main requirement.

Ovation Pro is certainly that. I particularly like the idea and practice of Applets – tiny programs written to run alongside Ovation and designed to complement it. An example is the !Calcs applet which allows adding and subtracting at the caret – very useful with invoices. John Wallace of Beebug tells me that Applets are written in a subset of C and are therefore highly flexible and easily developed. As they are produced they are made available on the Beebug Web site.

This flexibility and the inbuilt macro language certainly set the program apart from others in this area. Ovation Pro is a good example of an open-architecture program. In use, the context-sensitive information palette and the ability to draw within the page, give the program an excellent user interface. I certainly recommend this DTP program to any user, business or otherwise.

Ovation Pro costs £165 + VAT and is available from Beebug on (01727) 840303 or e-mail sales@beebug.co.uk. Upgrades from earlier versions of Ovation are also available. Beebug also have a Web site at http://www.beebug.com.

Word-processing

Alongside Ovation Pro I have decided to install *EasiWriter Pro* from Icon Technology. Again this is a program I am re-visiting, having used an earlier version. The program is basically *TechWriter* without the esoteric functions. TechWriter and TechWriter Pro are aimed more at those wanting to produce academic papers stuffed full of strange mathematical symbols, a job they are well-qualified to do. They certainly have more Greek symbols than Athens street signs.

EasiWriter Pro has undergone extensive development and now leads the field in Arc word-processing. A very popular feature of the Pro versions according to Mike Glover of Icon Technology is file compatibility with Word (up to 6) on the PC. The creation of tables, a particular pet-hate of mine, is much more straightforward and flexible than was previously the case. Mail Merge is simplicity itself and the spell-checker is excellent. The Pro versions have coloured backgrounds, better section numbering and content and index generation.

Mike Glover tells me that EasiWriter Pro is particularly popular with those involved in the generation of TV scripts where a two column layout is required with script in the left-hand column and directions in the right.

EasiWriter costs £89, EasiWriter Pro £119, TechWriter £149 and TechWriter Pro £199, all plus VAT. Students can obtain copies for half price and competitive upgrades from earlier versions and other packages are available. Icon Technology is on (0116) 2546225.

Moving backwards to go forwards

This move back to a more standard word-processor for those documents which do not need the full DTP treatment has greatly improved my productivity. I think that an occasional review of how we use a computer and what programs are used on it is time well spent.

Most programs will have improved from earlier versions and we are all in danger of overlooking some excellent software along the way. The natural tendency to stick with the same program also leaves you stuck with its problems.

As I have said before the programs to beware are those which are going nowhere in terms of development.

Computer programs should always have a sign saying *Undergoing Further Development* stamped on the box. In that way you know that someone is still interested in it.

Contact

You can contact me, Mike Tomkinson, by post at the usual *Acorn User* address or by dropping me an e-mail at: *aubizniz@idg.co.uk*

Let me know

The longer I write this page the more convinced I become that there are many small to medium-sized companies using Acorn computers and associated software in the running of businesses. The uses tend to be either basic or highly innovative. It really doesn't matter.

Let me tell the world about what you are doing, how and on what. The publicity cannot hurt and it gives us the opportunity to prove that there is a viable alternative to PCs. Contact me through the address given at the bottom of the page.

Business computers for schools – update

My recent offer to any business with defunct Acorn kit to have it re-cycled to schools was a victim of bad timing. Xemplar and others also decided to launch trade-in allowances against the purchase of new computers at the same time. This offer has since been extended and it seems anyone with old models can trade up to newer ones. As such I was not contacted by anyone with old computers. However, the offer still stands.

Payroll update

!HardCash, the payroll package from RaspSoft, featured in our February issue is now available and includes a full printed manual. Pricing has been set at £99 (no VAT applicable). As a special offer to Acorn User readers RaspSoft is offering a 10 per cent introductory discount until the end of Une 1997 – simply give them a ring and mention the business page when ordering. There is an extraordinary discount of £20 for the trade in of any old Acorn payroll package RaspSoft is on (01274) 671922 or e-mail s.dine@argonet.co.uk .

portables

Games round-up

I'M WRITING this column having just finished my first semester Uni exams and am in need of a bit of light relief and relaxation. What better way then than to take a look at some of the games available for the Psion 3a/Pocket Book II. In this round-up I will be looking at two compilations – *Games 3a* and *Games Deluxe* and also the Psion conversion of the well-known favourite *Pipemania*.

Games 3a

This is a collection of five games; *Popout* – a break-out style game, *HomeRun* – the Patience game built into newer Psions, *Fairway* – a enhanced version of the shareware golf game, *Bomz3a* – a puzzle game and *Lander 3* – an arcade-style game.

Popout is, as with all break-out games, very addictive and will keep you entertained for hours. There are various 'power-ups' including glue, shield, extend and shrink bat and death – all designed to either help or hinder you. The gameplay is very good, although the ball has a tendency to blur but this is due to the nature of the screen.

HomeRun is a variation of Patience which involves getting rid of all the cards by either going above or below the current card. The game is superbly implemented and you always want just one more go.

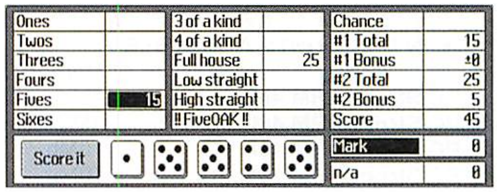
Fairway is a rather excellent golf game with superb graphics. A lot of people will already have the shareware version but the offering included here is a slightly updated commercial version. The game is, in my opinion, quite difficult but you just can't stop trying.

Bomz3a is a puzzle game which I am sure I've seen variants of before. It involves moving tiles around and collecting crystal balls before the Bombs explode. The graphics are pretty good and it's quite addictive.

Lander is an arcade style game with OK graphics, in which you have to pilot a ship around various galaxies delivering cargo as you go.

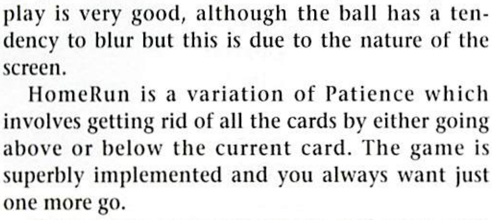
Games Deluxe

Another collection of five games (although this time they have rather strange names); *Horace in the Mystic Wood* – a platform game, *Strange Fruit* – a puzzler, *Patio* and *FiveOak* – card/dice games and *Stigma* – an arcade style game.



FiveOAK alias Yhatzee

Horace in the Mystic Wood is a platformer in which you have to go around collecting stars in order to open the exit door. Each level had a number of enemies and these must be avoided. Considering the small screen size this game has good, clear graphics and is very addictive.



Horace and the Mystic Wood

Stigma is in my opinion the worst in the collection. The aim is to guide a bouncing ball around 100 levels in a race against time. The sound effects are annoying and I'm afraid I didn't really enjoy playing it that much.

Patio is for Patience fans and contains two variations of the popular card game – LogJam and PushPop. Not a lot else can be said about them except that if you like card games you'll like these.

FiveOak is what I would call Yhatzee. This version is nicely implemented and as with the original, great fun especially when played in two player mode – even if yelling FiveOak doesn't trip of the tongue quite as easily as Yhatzee!

Strange Fruit is a novel puzzle game which despite a simple plan of lining up objects in various directions in order to complete the level is rather enjoyable.

Both compilations are good value for money with most of the games being quite addictive. Be warned however if you use your Pocket Book for work that putting these (or any) games on it could seriously damage your work output!

Pipemania

Pipemania is virtually a direct conversion of the desktop edition. For those that don't know, the aim is to build a pipeline to hold the flooz that flows through the system. To complete each level you have to ensure the flooz flows through the required number of pipes in the given time.

The game contains 36 different levels, each requiring more pipes to complete it – in later levels obstructions appear which can cost you a lot of time. It's great fun, very addictive and in my opinion a must for all Pocket Book owners (especially considering it only costs £29.95!).

Apologies

I WOULD like to apologise to a few people who didn't get replies to e-mails/letters they sent to me recently – I was changing e-mail accounts.

Also could a reader who sent me a review of Purple Software's floppy disc system please get in touch again as I have lost his address. Sorry to all concerned – things are now running smoothly.

Contacting me

You can contact the Portables page by writing to me, Mark Taylor at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by email to auport@idg.co.uk

MemoPad

In January's Portables Column I looked at how it was possible to upgrade the software on a PBII to virtually that of the new Psion 3c. However in the article I stated that there wasn't a replacement for *Jotter* available for the PBII.

This is no longer true as David Glover has released a shareware program called *MemoPad* which performs this task. It can store up to 100 notes which can be prioritised and ordered.

MemoPad can be downloaded from the author's Web site at http://www.argonet.co.uk/users/glover/

Web site update

The Portables Page Web site has been up and running for a while now and I am currently in the process of updating and refining it before it goes onto the AU Web server.

The address for the site is http://www.kumba.demon.co.uk/AU/ and there is also a link from the AU Web site. I apologise for the large number of changes to the site's URL while I have been changing Demon accounts.

3c/Sienna transfers

Many people have written in and asking if it is possible to use *!PocketFS* with the 3c and Sienna. As far as I am aware the answer is no. The serial port on the new machines is different and faster to that on older machines and also Psion has changed the communication software included on-board the 3c/Sienna.

However, as Acorn plans to release a Pocket Book version of the 3c we can expect a new A-Link system which will work with the new machines in the future. In the meantime PC card owners could purchase *PsiWin* for the 3c/Sienna and communicate with the new machines using this.

cover disc



STIB Monster software



This demo version has just one difficulty level and no saving, but the full version has five carefully graded levels, each with individual saved hi-score tables. See the end of this file for details on registering to obtain the full version.

On running the game you will be presented with a title screen. Choose a difficulty level from the right-hand side (Practice is recommended to start with) and click Play. Note that only Practice is available in the demo version.

The main features of the playing screen are a grid of animated, colourful but suicidal creatures (Stibs), and a firing device (Stib shooter) at the bottom centre. The Stib shooter is controlled using the mouse — it turns left and right and can be fired with any of the mouse buttons.

The aim of the game is to eliminate all the Stibs from the playing area, for reasons which are currently unclear. They each have a built-in self destruct mechanism, but can only obtain enough power to activate it when they have three or more neighbours of the same colour, and only when hit by a moving Stib also of the same colour.

These explosions frequently lead to some of the other Stibs becoming detached from the main group (which is always attached to the top of the playing area), and if this happens they will fall off the playing area and escape to safety. If, however, the group touches the firey lake at the bottom of the screen, they will all be changed to evil demons and your game will be over.

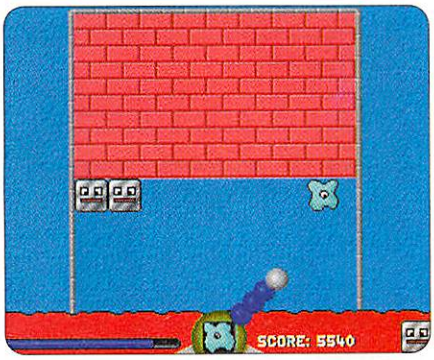
To liven things up a bit, each time a Stib is fired the group becomes increasingly unstable, indicated by a blue thermometer at the bottom of the screen. They become critical when the thermometer fills up completely – causing the entire playing area to permanently shift down a row. Do not despair – when Stibs become detached, the thermometer goes down. The more that fall off in one go, the more the thermometer decreases.

You get 10 points for each Stib you shoot.



You get 30 points for each Stib exploded. You get 60 points for each Stib detached.

Bonuses: You get 1000pts x level number for completing a level. You also get a bonus dependent on the number of Stibs used, which changes according to the difficulty of the level.



Hints and Tips

Once a type of Stib is eliminated, no more of that type will be given to shoot. However, there is a slight delay caused by the 'next Stib' system which makes things just a little bit tougher.

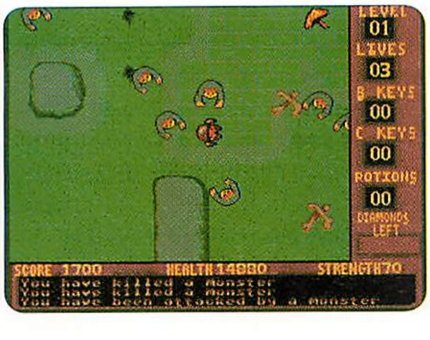
Stibs can be bounced off the side of the playing area. Be sure to check all angles before you make unwise moves.

Once the level is nearly complete, it is advisable to hang Stibs off a group of a different colour rather than the top of the screen. You'll see why if you try it. Similar tactics can be used earlier in the game, which is especially useful on higher difficulty levels — you will have to register to play these, see the help file for details.

Battlefield Douglas Frior



Battlefield contains 40 levels, in increasing difficulty, for you to complete by collecting all the diamonds and entering an exit square. Monsters roam around the levels and appear from generators, most of them can be shot and destroyed, however some cannot and must simply be avoided.



Scattered around the levels you will find keys that can open the barriers letting you into other parts of the level you are on, forcefields can be disrupted by pushing pushblocks into them. Use the transporters to gain access to other areas on a level if available.

At higher levels there are special pickups which will reveal further exits, transporters, forcefields and diamonds. There are many more items to be picked up and used, but telling you everything will just give it away.

There are also bonus rounds which require you to collect as much treasure as you can before exiting — the more you collect, the better the bonus. Happy hunting.

Keys

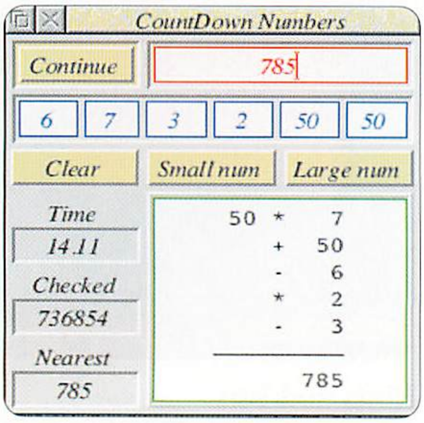
Space	Begin game	F2	Quieter sounds
P	Enter password	P	Pause game
O	Return to desktop	R	Resume (after pause)
Z	Left	Q	Quit game
X	Right	M	See map
'	Up	Space	Exit map page
/	Down	Z	Scroll map left
Return	Fire	X	Scroll map right
Shift	Use magic potion	'	Scroll map up
F1	Louder sounds	/	Scroll map down

cover disc

Countdown

David J. Ruck

CountDown was written to take on and win against the long running Channel 4 TV program Countdown — shown at 4:30pm weekdays, most of the year. This was necessary as the programmers brain just wasn't up to the job without assistance from RISC OS.

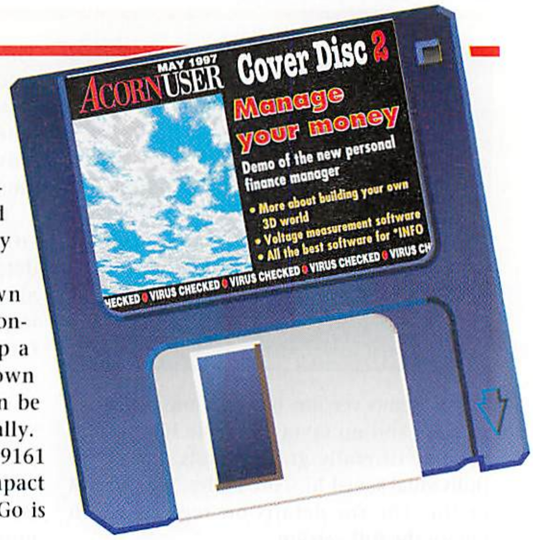


!CountDown will enable both numbers and letters games from the TV program to be solved, it will also solve the conundrum. When played alongside contestants on the show it should enable the user to win the vast majority of games.

Double-click on the !CountDown application to install its icon on the iconbar. Clicking on its icon will bring up a Countdown Numbers and a Countdown Letters window, the iconbar menu can be used to bring up the windows individually.

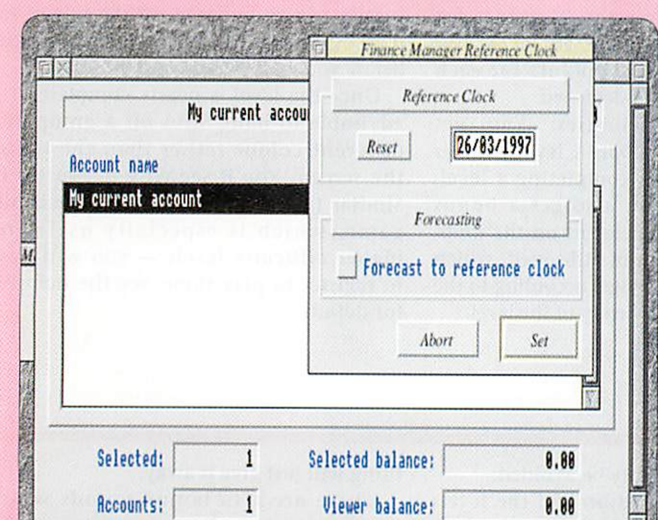
The dictionary !CountDown has a 59161 word dictionary stored in a very compact form on disc which is searched when Go is pressed, the dictionary consists of:

14221 nine letter words
14928 eight letter words
13855 seven letter words
9987 six letter words
6170 five letter words



The program is quite intuitive to use but if you need more details they are in the help file.

Finance Manager



Try out the demo of this new personal finance manager package from Solloway Software – for a full review see page 46

ACORN USER Survey

Complete the 1997 Acorn User survey on this month's cover disc and have a chance of winning a digital camera.

For more details see page 31

Regular items

- Files for our 3D game series
- Plotting sprites in windows
- Free Ads — all our Free Ads on disc
- Bucketloads of *INFO from graphics to games
- Mike Cook's Peak-to-Peak voltage measurement

Disc information

The software on these discs has been compressed using ArcFS 2 from VTi, and are opened by running a copy of ArcFS then double-clicking on the archive to open it. There is a copy of ArcFS on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH. If it verifies successfully return it to the Acorn User editorial office at the usual address.

The Acorn User cover discs have been checked for viruses using Killer version 2.500 from Pineapple Software.

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the best kept secrets

Phyllis Brighouse shows that education products aren't just for educating

We all know Acorn makes the best computers in the world. The problem is finding software, especially as some of the best isn't always advertised to the general public. Traditionally, the market has been divided between home users and educational users. Some of the very best software is aimed at education and a lot of it isn't advertised in magazines sold to the home user.

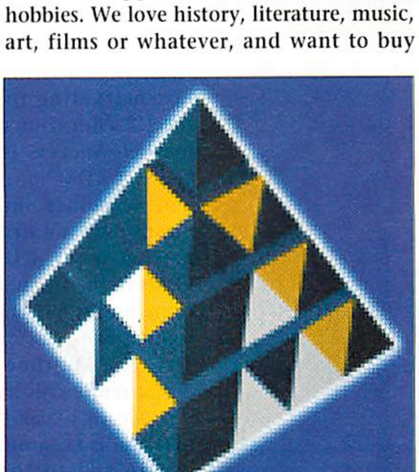
This makes sense. Parents don't want to spend money on software for their children to use at home when they have already used it in school. Worse, they don't want to spend money on software they won't use at home because it has "school" written all over it. Teachers, for their part, don't want to set up a program for use in a lesson only to have pupils say "Oh, I've used that at home already. Boring!"

The CD ROM market

But markets change, and the computer market changes faster than most. CD-ROMs are now well-established. If you buy a new computer the odds are that you will either buy one with a CD-ROM or else soon find the money to install one. CD-ROM drives are affordable and the prices of CD-ROMs themselves are tumbling.

The nature of the home user has changed with the market. There are still people out there who get excited about C++ or Basic, and who read the technical manuals rather than newspapers over the breakfast table.

A lot of other people (like me) buy software to supplement a wide range of hobbies. We love history, literature, music, art, films or whatever, and want to buy CD-ROMs about these subjects.



The domestic market is expanding rapidly and the education market cannot ignore such a huge growth market. Manufacturers of educational CD-ROMs are therefore looking to the expanding home market to increase sales. Anglia Multimedia is a typical example – it is the division of Anglia Television which designs and produces computer software to back up children's educational TV broadcasts. CD-ROM for the home market is now one of Anglia's major growth areas.

Anglia's software

Anglia Television is one of a number of TV companies which produce a range of excellent TV programmes for schools, and it has always supported its programmes with good software. It began with its *Key* database for the BBC Micro. With the advent of RISC OS machines this developed into *Key Plus* for secondary school level work and *Key Note* for primary level. *Keycount* for primary school level and *Key Calc* for secondary school level are the associated spreadsheets, and many datafiles can be transferred into Key Calc for spreadsheet work.

Key Plus is now into version 3 and is available for the Acorn and PC platforms. It is a very powerful yet very easy-to-use database and there are currently 50 eco-

the best

nomically priced datafiles which record alpha-numeric data and photographs. Data from the database can also be plotted onto maps.

Once a datafile is open you can open other datafiles and display both sets of information on screen as pie charts, bar charts, line graphs, scattergrams or Venn diagrams. Datafiles can handle median, mean and mode statistics.

You can create your own datafiles and can set up the database program in English, French, German, Spanish or Welsh.

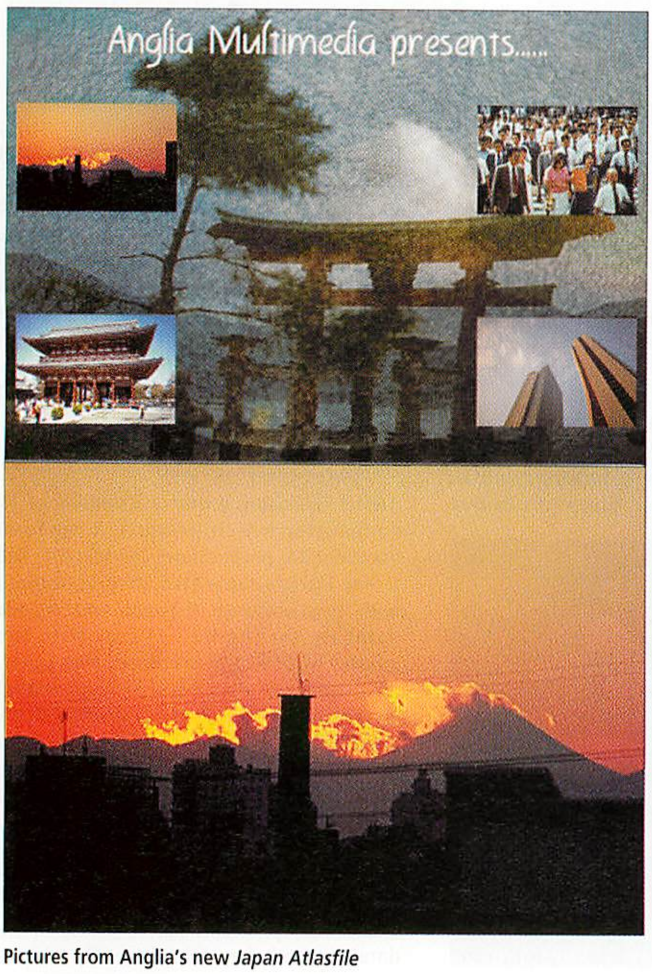
As well as datafiles, Anglia produces other software. Acorn's excellent sound, drawfiles and spritefiles, and *Acorn Replay*, led to Anglia developing *Key Author*, the multimedia authoring package now being used to create its CD-ROMs.

Key Author

All Anglia's in-house multimedia CD-ROMs are created on Acorn machines running under RISC OS, using Key Author. These programs can then be tailored to run on the three platforms – the major differences being in the sound files and movies. Apple and PC machines use *Quicktime* while the Acorn platform uses Acorn Replay.

If you have both an Acorn machine running RISC OS together with a PC card, you can create your multimedia program on the Acorn machine with Key Author and then transfer the program and test run it on your PC card.

Key Author is Anglia's proprietary product. If anyone creates a multimedia program using it and subsequently wants to market it, they need to obtain a licence from Anglia and include a key author reader on the disc.



Pictures from Anglia's new *Japan Atlasfile*

Future developments

Anglia Television has restructured the software development side of its business and has established Anglia Multimedia to market its CD-ROM software. Peter Stibbons, the director of development, states that Anglia is not just marketing for the UK educational market. Success in the CD-ROM market, he points out, means that you first market your CD-ROMs in the UK and then market them worldwide.

Anglia Multimedia currently sells its products in 13 countries and is keen not just to sell to the educational market but also to home users. A new range of CDs is being produced with the home market in mind.

What software is Anglia producing that would be interesting to home users? All its existing schools software is excellent – some have been updated and enhanced such as *Romans* and *Egyptians*. *Seashore Life*, *Garden Wildlife* and *Eureka* (an encyclopaedia of discoveries and inventions) are eminently suitable for home use.

A wide range of products is being developed specifically for the home market, though a PC product, *Virtual Safari* was the fifth best-selling CD-ROM in the UK this Christmas. The modern idea of a safari is not to take a gun but a camera to shoot your animals. There are four different African environments to visit: acacia grassland, the waterhole. the river and the savannah. It is challenging to shoot the animals. In a virtual world, as in the real world, the animals do not stand and pose for you – they are moving.

Virtual Safari has its own area on the World Wide Web. When you succeed in taking a picture of an animal you can post it on the Internet in this area of the Web. Every month there is a competition for the best photograph with a monthly prize.

Soon to be launched, *The National Trust British Countrysides* is the National Trust's first CD-ROM, available for RISC OS. It focuses on the work of the Trust and has eight case studies and documentaries about particular Trust sites, including Dovedale, Farne Islands, Hatfield Forest, the Giant's Causeway, Aberglaslyn and Box Hill (with its Jane Austin connections).

As well as products produced in-house, Anglia also retails products licensed from other companies.

Time Warner has licensed the game *The Pink Panther Passport to Peril*. On the non-fiction front, Anglia markets Flagtower's *World War I*, *World War II* and *History of Medicine* CDs, offering exclusive Internet support. These are all PC programs and you will need a very good PC card to run them.

Anglia on the Web

Anglia's Web site contains free Key Plus files from teachers and other support materials for schools, together with pro-

kept secrets

grams that never made it to full product. There is a wide range of support material for anyone interested in them.

The BT Global Challenge Yacht Race is a case in point. Many schools following this race are able to download a Key Plus file which enables them to plot the positions of the various boats taking part. All this data is different from that on Campus World.

Anglia's CD-ROMs, such as Seashore Life, Garden Wildlife, Romans and Egyptians, are Internet-supported – the latter being the first true hybrid – and Anglia sees the Internet as an important feature in future CD-ROM developments.

Anglia can be found at:
`http://www.anglia.co.uk/education/`
AOL Keyword: Anglia

High Street vs Education

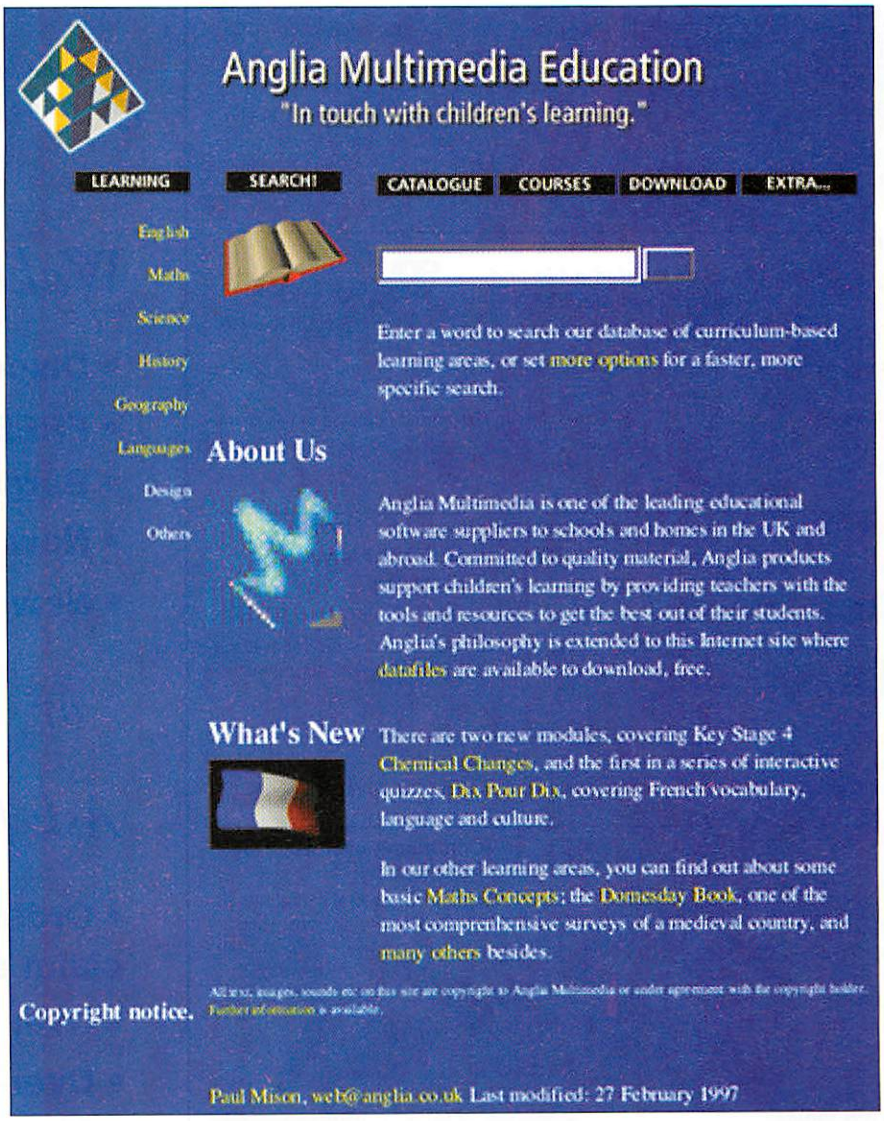
When you start to compare the prices of Anglia's products released for the PC on the High Street shelves, Acorn products seem to be more expensive. Peter Stibbons points out that there are significant differences between the educational product that goes into schools and the High Street product. However, additional schools material is supplied for the extra price which the home user will not want.

The educational versions include a 10-user site licence, additional material in the form of photocopiable worksheet for the classroom and an upgrade route. Additional copies and upgrades are offered to schools at a very low cost. This offer is not made to the High Street user.

For example, *Exploring Castles* and *Understanding the Body* have been upgraded, and educational users have been offered the upgrade at a reduced price. You will need to state clearly when you are ordering, therefore, which version of the disc you require. A technical helpline is available for home use as well as for schools.

Acorn at Anglia

Considering the number of PC clones in schools and the growth of the PC market, how committed is Anglia Multimedia to the Acorn platform? Peter Stibbons emphasises that it is very committed. Its in-house production team uses Anglia's own Key Author to produce



The Anglia Web home page

its CD-ROMs and has a suite of Risc PC's on which to produce them. Anglia considers them to be the best machines on the market for this purpose and, of course, it regards its own Key Author as the ideal authoring package on which to produce CD-ROMs.

Wise computer buyers purchase the machine that runs the software they want to use, and the best educational software is still on the Acorn platform. The machines are reliable and long-lived, unlike PC clones which are outdated after two years. Many schools have a mix of platforms. Anglia expects to be producing CD-ROMs using Risc PCs and Key Author for the forseeable future.

If you want a really good CD that will entertain, educate or both, that will run under RISC OS, Anglia will give you what you want – high-powered software that will make your computer sit up and take notice, designed on Acorn machines to get the maximum performance from your computer. AU

Snap happy

Acorn Computers & Acorn User give you the chance to win an amazing Casio QV10 digital camera



Casio QV-10 Digital Camera ... for Acorn

The Casio QV-10 is beautifully designed; its operation is obvious and requires few instructions. Light and portable, the camera can be attached to a tripod if needed, but is easily held in the hand as a smooth, soft- touch shutter button minimises camera-shake. Best of all, digital means that the camera never requires film!

Casio QV-10 features include:

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- close-up lens
- pivot-mounted lens
- exposure control
- light meter
- self-timer
- connection kit for computer and TVNCR
- optional AC adaptor
- driver application for Acorn computers

The Casio QV-10 Digital Camera can be linked to any Acorn computer with a serial port running RISC OS 3.1 or later. 2MB RAM are required. Hard disc recommended.

How to enter the competition

All you have to do to have a chance of winning this superb prize is answer the special competition question in the Survey on the cover disc. Then simply fill in your name and address and send the Ansors file on disc to the Acorn User Survey, IDG Media, Media House, Adlington Park, Macclesfield, Cheshire, SK10 4NP or alternatively by e-mail to auspecial@idg.co.uk Closing date for entries is 31 May 1997.

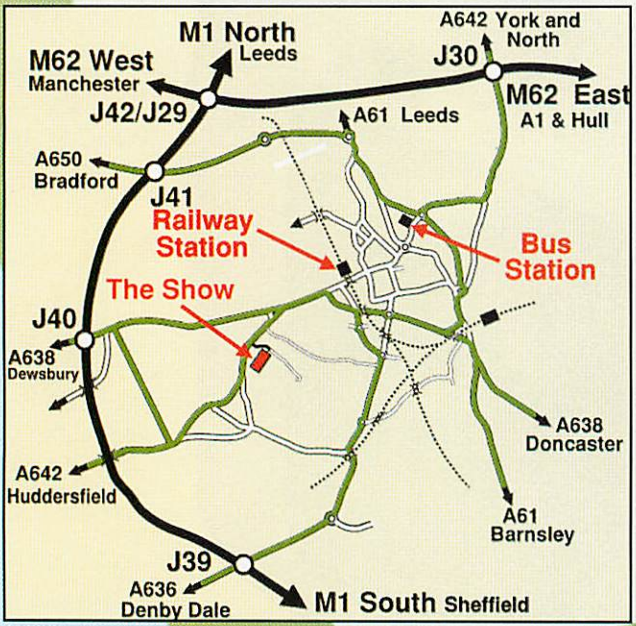
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Acorn Virtuality part 2

Greg Scott moves on to the next stage of creating a 3D game

This month we'll be generating our first 3D view. By using a technique known as ray casting we'll be able to create an image at least as realistic as Wolfenstein 3D.

Ray tracing

In an illuminated scene the brain forms a 2D image by receptors in the eye reacting to rays of light entering inside it (Figure I).

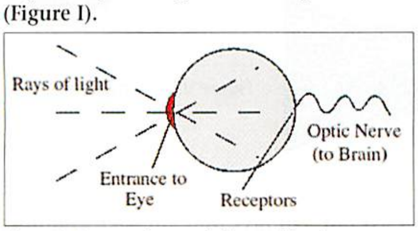


Figure I: How an image is formed in the eye

The electronic form of this process is called ray tracing – Clares' *Render Bender* being the most popular package on the Acorn. The ray tracing pipeline (as it's known) involves tracking every single ray of light in a scene and calculating if it ends up in the 'view plane' (see Figure II).

Ray tracing is one of the most computationally intensive methods of rendering 3D images and the results are simply stunning. The only problem is that to do it in 'real-time' (at a live, fluid speed) we would need at least two of ART's 300MHz StrongARM Risc PCs. The process would have to be minimised to attain a decent frame rate. There are several areas in the rendering pipeline where time can be saved:

- Tracing only the lines which will end up in the view plane
- Simplifying the 3D model, so less complex mathematics need be used to track rays
- Reducing the 3D coordinate information to a 2D plan to keep storage and complexity to a minimum
- Removing any specific light sources from the world

Take these characteristics away from ray tracing and you have the concept of ray casting.

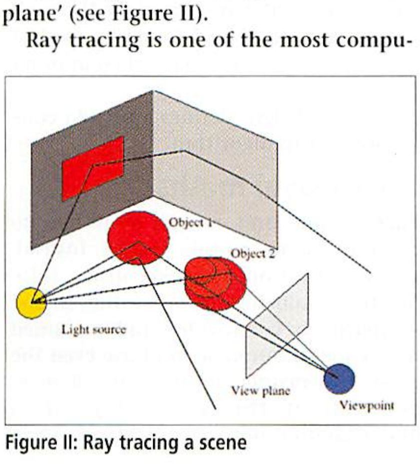


Figure II: Ray tracing a scene

Ray casting

The main problem in ray tracing is the way in which it tracks *every single ray* of light within the world emanating from the eye through each screen pixel – ray tracing works light backwards. This uses a lot of processor cycles and in a high-speed computer game we can't afford it. Ray casting makes a lot of compromises to get the speed up.

We already have the 2D world data (which we developed last month), and the fact that it is made entirely of squares means that the mathematics involved are greatly reduced. We won't be using specific light sources in our game but there will be some shading involved. Already we have achieved the cut-backs previously described, and not one formula has been mentioned.

You can think of ray casting in the following way. Imagine you're in the middle of a square room, you see the wall directly in front of you and you also see (with your peripheral vision) walls either side – see Figures III and IV overleaf.

The image that we generate with ray casting is based on a field of view or FOV. The field of view defines the amount of information which goes into our final image. If we could see 45 degrees in each direction, relative to the viewing angle (the heading or angle of

Acorn Virtuality

sight relative to due North), it would mean that we had a FOV of 90 degrees (Figure V). Most humans actually have an FOV larger than 90 degrees but for our purposes 60 degrees will be fine. By all means experiment with varying sizes of FOVs but I recommend staying between 60 and 90 degrees or things might turn a bit bizarre.

For each frame to be drawn we cast out a collection of rays that cover a certain field of view. We then need to calculate the vertical and horizontal collisions – or intersections – of these rays with walls in our world and use the information about each intersection to generate a view, column by column (each vertical strip is known as a 'sliver'). Figures VI and VII show how a screen might be drawn in a certain situation. Remember how we are representing our world – the coloured blocks in Figure VI are actually differing numbers in the world data file.

In Figure VI the player is located in an 8x8 world (that's 64 numbers in the world data file – in the real game we will be using 64x64 worlds). The player's viewing angle is straight up (mathematically at 90 degrees). In this example, to have a 60 degree field of view we start casting the rays from the viewing direction minus 30 degrees to the viewing direction plus 30 degrees – in this case we would cast out rays from 60 to 120 degrees.

Because the world in which the rays are cast is really 2D, the problem of computing intersections becomes fairly simple. What's more, the world has a regular architecture – it's just a grid with blocks either solid or not. Both the maths required and the number of rays cast are greatly decreased in comparison to casting in a world of any geometry.

To generate an image, we do the following:

- Cast out 320 rays (one for each column of the mode 13 screen) covering a certain FOV and calculate the intersection of each ray with the blocks in our 2D world
- Using this information we compute the distance from the player to the point of intersection
- Use this distance to scale a vertical strip, work out which part of the wall should be plotted and draw the vertical 'sliver' in the correct vertical column on the screen.

The panel (left) defines a pseudo code version of this algorithm.

A pseudo-code Ray caster

```
/* pseudo code ray casting algorithm. Let
player be at playerx,playery,*/
/* looking in the direction viewangle */
/* Setup all variables*/
/* Start to cast rays out -30 degrees from
viewangle*/
start_angle=viewangle-30;
/* Cast out 300 rays, one for each column
we plot to */
for(ray=0;ray<300;ray++)
{slope of ray*/
while(ray is still casting)
{for vertical intersection*/
if(not intersected yet with vertical intersec-
tion)
if(ray has hit block on vertical boundary)
{distance from playerx,playery to location
of intersection)
}
else move ray along
if(not intersected yet with horizonal inter-
section)
if(ray has hit block on horizontal boundary)
{distance from playerx,playery to location
of intersection)
}
else move ray along
/* At this point the ray has made both a
horizontal and vertical intersection */
if(distance to vertical intersection is less
than distance to horizontal)
{scale draw sliver in the appropriate column
}
else
{scale of horizontal intersection sliver
draw sliver in the appropriate column
}
}
```

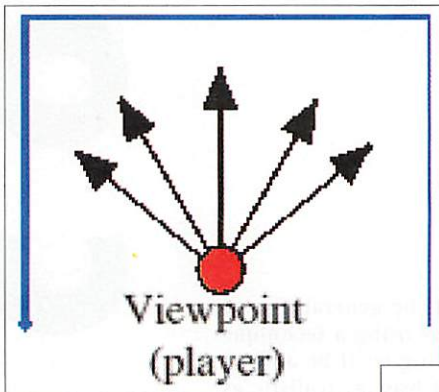


Figure III: The player in a room...

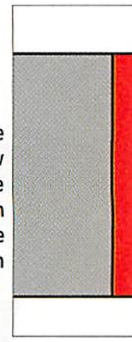


Figure VII: How the screen might be drawn

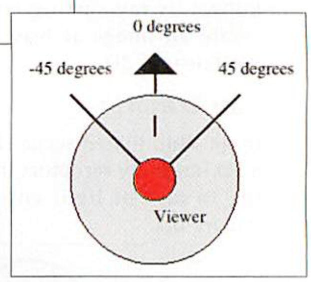


Figure V: A 90 degree FOV

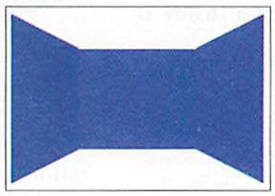
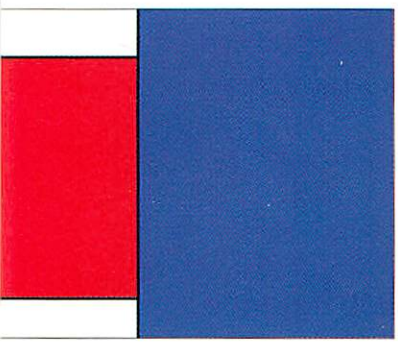


Figure IV: ...and the generated view

The (heavy) maths

There simply isn't enough room here to cover all the ray casting process. Instead, you will find on the cover disc a fully functional (albeit slow) ray casting engine – extensively commented and explained with enough formulae to please even the greatest of mathematical minds. Remember that at this early stage it is understanding not speed, which is most

Acorn Virtuality



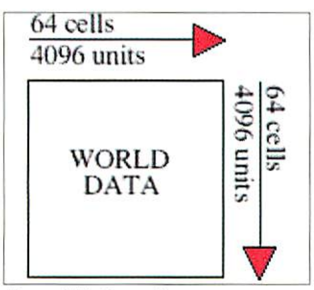


Figure VIII: The cells blocks are 64 x 64

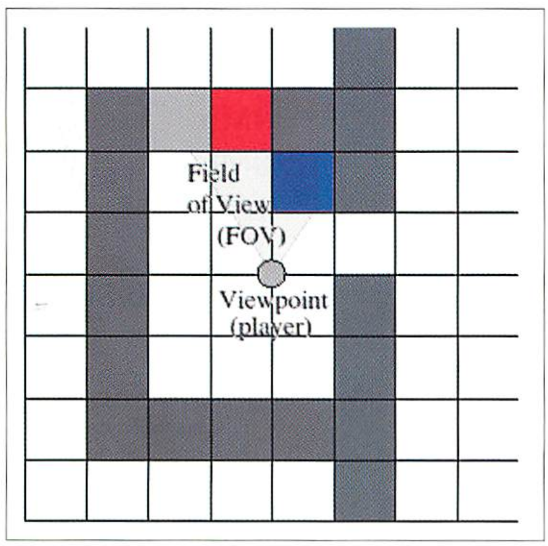


Figure VI: The FOV drawn on screen

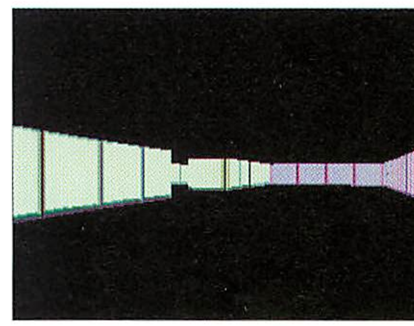


Figure IX: A view generated by the engine

important to us. The *!AUA_Ray* application will render a view using the world and graphics files inside the directory.

Co-ordinates in the world

Last month we created the world file which our ray caster uses to draw its walls. Remember that the world consists of 4096 blocks set in a 64 by 64 matrix. Each of these blocks, or 'cells', is in turn 64 by 64 units in size (Figure VIII). To convert between these differing scales requires some simple calculations. The player's coordinates within the world are measured in the smaller units (0-4096,0-4096). To work out which **cell** the player is in, we do:

```
cell_x=player_x/64;
cell_y=player_y/64;
```

This can be optimised by using **binary shifting** (see the panel – right) to give the expressions:

```
cell_x=player_x>>6;
cell_y=player_y>>6;
```

To calculate a player's position inside a certain cell, we take the values of player_x and player_y modula 64 (that is, the remainder after these values have been divided by 64), like this:

```
inside_x=player_x % 64;
inside_y=player_y % 64;
```

The modulus operation takes as long as a division. Fortunately, since we've used a power of 2, we can also obtain a result by **AND**ing the coordinates with 63 (hexadecimal 0x3f):

```
inside_x=player_x & 0x3f;
inside_y=player_y & 0x3f;
```

All these calculations will be used many times over the next few issues, so it's worth discussing them. It should now be obvious why I chose such specific world dimensions: 64 and 4096 are both powers of two. This means that many binary level optimisations are possible – the binary number system is after all based on powers of 2 (1s, 2s, 4s...), just as our decimal system is based on powers of 10 (1s, 10s, 100 s...).

Next month

In the next issue we shall be making countless improvements to our ray caster – speed, colour, movement, doors and more.

For now, study the ray caster and text files on the cover disc, inside the *AUA_Ray* application. You will be pleasantly surprised – I guarantee it.

• *Send your creations to: Acorn User 3D, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, Cheshire, SK10 4NP or e-mail to AUThreeD@aol.comhttp://members.aol.com/AUThreeD/*

AU

Binary shifting

Use the "<<x" (left shift) and ">>x" right shift operators to move the bits of numbers to perform multiplications (<<x) and divides (>>x) by powers of two. For example:

Decimal	Binary	<<1 (multiply by 2)	<<1 (divide by 2)
6	0110	1100	0110
2	0010	0100	0001

So x<<6 = x multiplied by 2 to the power of 6 = x*64

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(See also the "2nd user" section)	
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420Mb	£169 (198.57)
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ARM3 (25MHz)	£129 (151.57)
(Dealer fitting recommended for the ARM3)	

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A310

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VISA

New beginnings

Steve Turnbull explores a new package for programmers

In the days of the 8-bit BBC Micro no one really cared too much about user-interfaces — beyond making them easy. There was no restriction on how you presented your program other than how the user was going to like it, if you could program a little you could create a commercial program.

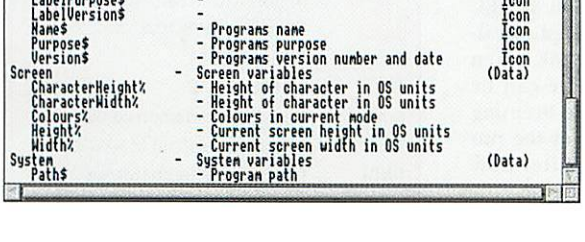
Then came the 32-bit revolution and with it the Wimp environment — *W*indows, *I*cons, *M*enus and *P*ointer — multitasking and all its accompanying complexity. It was no longer feasible to write a program if you could only program a little, unless you were happy to present users with a simple single-tasking environment.

But to create anything credible you had to understand the Wimp and all its system calls, and that meant owning the Programmers Reference Manual, an expense to which only the dedicated would stretch.

Now Clares have arrived with *WimpBasic*, a programming environment that, hopefully, allows the less expert programmer to produce the programs that they want, which multitask happily with the rest of the software in the machine, without the hassle of having to understand what's going on.

What you get

The current package comes on two discs, one is the application itself, the other contains the online manual. Usefully you get two credits for installation (the system can be installed on two machines) plus the ability to uninstall, an almost essential feature that is far from normal with RISC OS software.



Installing everything gives you the WimpBasic application itself, a folder containing the WimpBasic modules (needed to run the programs once completed), StrongHelp for the online manual and a manual converter which extracts the text if you want to print it out.

There's also a directory of 16 tutorial programs, required reading as the online manual is mostly just a reference work, though there is a set of terse notes about the tutorials.

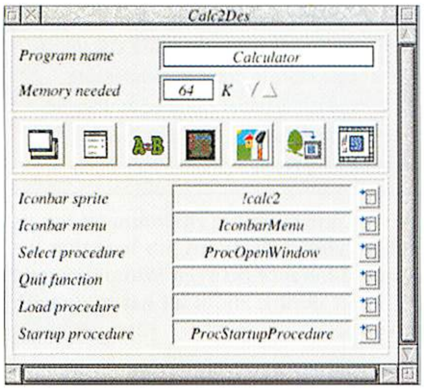
Creating an application

The primary difference between a multi-tasking program and a single-tasking one is the concept of being *event-driven*. In old-style programs the user was led through a series of tasks where he filled in information and then things happened. He could not change his mind except to escape back to the main menu (if he was lucky).

With an event-driven program virtually anything can happen in almost any order. For example, here I am writing this review — the program is accepting my keyboard input — but at any moment I might pop-up the iconbar menu and select the Preferences box, while that's on screen I might check how many words I've written so far, and so on. Events related to many different functions can be invoked in almost any order.

What WimpBasic does is allow you to attach routines written in Basic to specific events. On the main application dialogue box there are six items to fill in, and four of those are events:

- Startup procedure – what to do when the program first starts up
- Select procedure – what to do if the user clicks on the iconbar icon
- Load procedure – what to do if the user drags something to the iconbar icon



- Quit function – the routine to call if an attempt is made to quit the program

You can produce routines for any, all or none depending on your needs.

Windows and menus

One thing you can't get away from in any integrated development system is windows and menus, you have to create them otherwise your program will have no way to communicate with the user.

WimpBasic is an *integrated development environment* which just means that everything you need is supplied: there are editors for creating windows and for menus as well as for variables and code, of which more later.

It was common practice, though never *good* practice, in the older style of programming to make things up as you went along. Particularly when it came to input and output. This does not work so well with Wimp programming and no matter how easy WimpBasic is to use this, it's just as true.

You have to decide what the program windows are going to look like, although you can change them as you go. For every window you create you can add code to handle events specifically for that window, you add icons to the window and for every icon you can place routines to deal with events such as it being clicked, double-clicked, dragged or whatever is appropriate.

New beginnings

VisualBasic

As research for this review I took a look at VisualBasic (VB) on the PC, this is a very popular program which does for the PC what WimpBasic does for RISC OS.

A cursory examination of the program revealed VB to be rather further from Basic than WB is. It has some nice features but also some rather terrifying ones — from a debugging viewpoint.

VB has more capabilities than WB but much of this is due to the lower capability of the operating system — as Windows provides less functionality than RISC OS, VB has to provide more in order to compensate.

WimpBasic is under continuous development and you can be sure that it will mature very nicely.

Every programming environment has its oddities and conventions, it's here that the biggest difference between WimpBasic and BBC Basic occurs, and it all has to do with variables.

Variables and groups

You cannot simply create variables for use within the program, or rather you can for local variables, but global ones must be created separately. In addition, variables must be created within specific groups. This might seem a curious requirement but it really comes down to windows and icons.

Every icon must have a name, and that name must be a valid Basic variable. In other words if the icon is writable, it would have a name like *Input$*. In addition every window has a name, say *Initial*, so to refer to the *Input$* icon in the *Initial* window you use:

```
Initial:Input$
```

At any time you can check the value of this variable to see what it is, or you can set it:

```
If (Initial:Input$="") Then Proc
NullInput
Initial:Input$ = "Fred"
```

In the second example something important happens, the icon in the window will be updated to show the word "Fred" without any other action in the code. It's taken care of automatically.



The variables for windows are set up automatically and there are a number of other standard groups of variables:

- System contains the *Path$* to the program itself
- Screen holds the screen size, number of colours and the size of printed characters
- Printer contains most of the currently set printer parameters, for more advanced use

In addition you can create an arbitrary number of other groups with associated variables, two typical ones would be *Global* to hold global variables and *Constant* for variables which hold constant values — the fact that this group is called Constant does not mean the values cannot be changed, it's just an aid to remind you not to change them. The values themselves should be set in the *Startup* procedure.

The language

WimpBasic does not use BBC Basic at all, it is a completely new implementation of Basic that presents mostly similar features, with differences appropriate to its changed interface. For example, commands like GCOL and COLOUR are out — they should not be used in the Wimp environment — while new commands include those for manipulating menus, icons, the printer, loading and saving data, and so on.

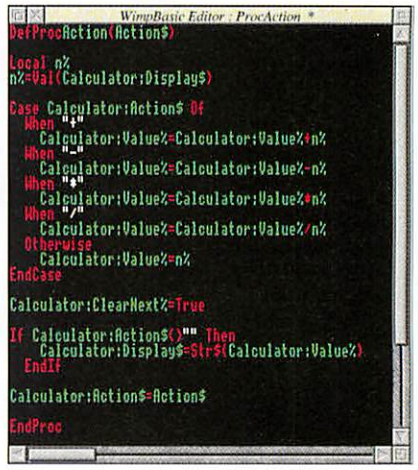
Graphics operations are catered for so you can draw dynamic graphics in a window or to the printer, any commands are queued until the next time the window is polled, it's then redrawn.

There's a much more comprehensive and useful system for formatting data for printing — no more @% required. Plus you can provide independent formats for strings, integers and floating point numbers.

A number of file commands have been added to help cope with the complex loading and saving protocols that need to be adhered to when files are dragged on to icons or windows, or when using a savebox to save out data.

Commands for altering windows, such as their size and title, placing the caret are all provided as single commands. Similarly for menus the number of commands is extensive.

As you're developing your program you can compile it at any time to run it, which will give back a report of any errors found. The WimpBasic runtime module — needed to run any program — occupies something over 100K, about twice as much as BBC Basic V but, for example, the supplied calculator program occupies just 6K when compiled. The run-time module can be freely distributed and there are no licensing issues involved. Only one copy of the run time module is required no matter how many WimpBasic programs you have.



Text used within the program is held in a Messages file which means that internationalisation of a finished program would not be too hard. Likewise window templates are in a standard file.

To aid easy programming every part of WimpBasic can be exported and saved separately, then re-imported simply by dragging. This means that you can build up a code library so that you don't have to keep reinventing the wheel, and facilities for code, window, menu and sprite libraries are provided. Not only this but a Web site has been set up so that you can upload your routines and download other people's, making programming even easier.

Summing up

WimpBasic is not perfect, it desperately needs a written manual with lots of examples and long-winded explanations for users with less understanding of things Wimp-ish — such as the raw events and types of icon you can have.

However these will come. There is no question that on the technical level the application achieves what it sets out to do very well: it brings the creation of simple to medium-complex Wimp applications within the reach of the average user, without recourse to a course in C programming. This is a Very Good Thing. AU

Product details

Product:	WimpBasic
Price:	£49.95
Supplier:	Clares Micro Supplies, 98 Middlewich Road, Northwich, Cheshire, CW9 7DA
Tel:	(01606) 48511
Fax:	(01606) 48512
E-mail:	sales@clares.demon.co.uk
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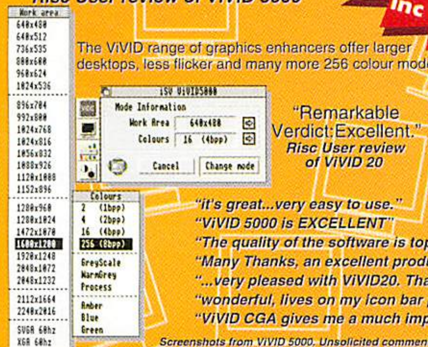
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While Stocks last

Tune in to DeskFM

Mike Cook looks at an FM radio and sound switch from Raymond Datalink

Here is a commercial offering of two of my past *Run the Risc* projects. Not that the design is in any way related but the ideas are the same. *DeskSP* is a podule that allows you to switch between one of four sound sources and also control the volume and tone of each. *DeskFM,* on the other hand, incorporates all the features of DeskSP and adds an FM radio. There are also options to add a five-band equaliser to either product for just £5 extra.

The DeskFM card is built to a high-quality professional standard, incorporating surface mounting chips and a Phillips Multimedia Tuner FM front end and, unlike my project, this radio receives in stereo. The painted back panel has three miniature stereo jack sockets for its output and two auxiliary inputs along with a standard aerial connector.

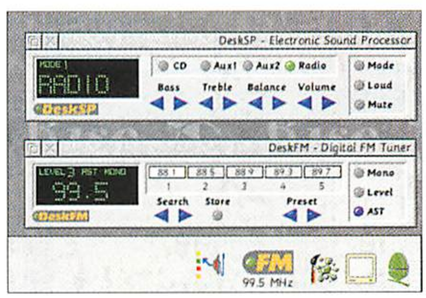
Slightly disappointingly the panel has no printed legend so you have to match up a picture in the instruction book to see which is which. However, most of the time you won't be using the back panel connectors as all the audio connectors are available inside on pin headers. This allows a neat permanent connection to be made inside the computer.

A mix input allows you to mix in another source of sound but there is no control over it. There are controls covering volume, balance, bass and treble, and also a loudness control that gives a boost to low-level signals giving a maximum of 32dBs of bass and 29dBs of treble in 1.5dB steps. The volume control can range from -31dB to 20dB in 1dB steps. The output can directly drive a low impedance pair of loudspeakers.

The software to control this only occupies 32K of memory. There are two control panels; one covering the radio and the other the sound processing. A nice touch is that all the inputs including Aux1 and Aux2 can be customised. There is a pseudo LED green dot display showing the selected source and the adjustments are by up/down push button. When you alter any of these controls the display temporarily changes to show the new level and then reverts to displaying the source, just like a modern car radio. The mode control allows you to assign up to six different modes or tone shapes to the inputs – these change automatically as the source is changed. There is also a mute button for when the phone rings or you are called away from the computer.

The FM radio has its own panel that shows five of the 100 preset radio channels. You can click on one of these or use push buttons to scroll through the options. In fact there are two stores here: one that can be automatically filled with all the stations that DeskFM finds and the other to programme up with your favourite stations. One snag I can see is that the only thing displayed is the station's frequency; there is no provision for entering the station's name, which would have been more user friendly.

The tuning is done by a pair of up/down search buttons and this was the aspect I found most unsatisfactory. Clicking on one



of these sends DeskFM searching for the next FM station. However, I found two points where it jammed up receiving *sprogs* – radio slang for spurious signals. These can be caused by computers, monitors or most other electronic equipment and can sound either unpleasant or like a strong station transmitting nothing.

A look at the manual told me that if I clicked on the tuning buttons with Adjust instead of Select, the radio would only step one increment and I could step over the sprogs. However, this revealed another unsatisfactory aspect of the software – although the radio tunes in 12.5KHz steps, the display only shows the frequency to the nearest 100KHz. Therefore you can have several clicks without the display moving.

DeskFM can automatically scan the band and set up the presets for each station it finds. A four level squelch control handles the sensitivity level of the station detector. Set to its highest level only the strongest stations are picked up but when set to some of its more sensitive levels there are more troubles with sprogs. I got about 40 presets all tuned to the same sprog; the software could be a little more intelligent here.

The manual was terse but adequate in the topics it covered but with two glaring omissions. Firstly, no attempt is made to explain which cables are needed to connect into the main computer board to integrate DeskFM into your set up. I know there are many different set ups around but some attempt at what could be done would have been helpful. Secondly, there was no mention of the aerial which is perhaps the most important factor determining the quality of reception.

The radio kit I used for my project provided a wire dipole aerial that worked quite well. Fortunately, I live close to our local FM transmitter and did not have much trouble receiving the stations on a length of wire. However, with a properly installed external or loft aerial I'm sure I would not have had as much trouble with sprogs. This should have been acknowledged in the manual. It would also have been handy if some details of module calls were included so that you could write your own controlling software but these are available on request.

Overall, the sound quality was very good and once a station was tuned in I had no further problems. The card build quality is high and it looks a very reliable piece of kit. The only reservations I have is on the price – for the money you could buy a stand-alone radio.

I am told that the DeskFM card can be upgraded to include a data module which will allow the computer to display the name of the station that is embedded in most FM radio channels. Also some radio companies use this system for sending extra information like the name of the record currently being played. This should be available by the time you read this. AU

Contact details

Product:	DeskFM
Use:	FM radio/sound switch and processor
Manufacturer:	Raymond Datalink
Tel:	(01582) 757725
Price:	DeskSP £44.99, DeskFM (incorporating DeskSP) £74
Hardware:	A300, A400, A540, A5000, A7000 or Risc PC + Free expansion card slot
System:	RISC OS 3.1 or later
Pros:	Good quality hardware that produces a good sound
Cons:	May be a bit pricey and some shortcomings in the software

Rob Miller looks at QuickTime VR from Warm Silence Software

The Web in 3D

One of the most important features of any computer these days is cross-compatibility. With the increasing dominance of certain large software corporations in the USA, it's important for the Acorn community to realise that making code or resources produced for other platforms work on the Acorn machines is a relatively easy way of increasing and extending the usability of RISC OS machines.

Just the fact that one is able to read "foreign" graphics formats such as GIFs and JPEGs means that the number of picture resources is not just limited to those produced on Acorn machines. There are also other types of file such as text and sound which can be produced on one machine and then read on Acorns.

With the rapid growth of the Internet, the number of resources has increased dramatically and therefore so has the need for even greater compatibility between machines. One company striving to close the gap is Warm Silence Software who started off producing *MovieFS*. This is basically an extension of the RISC OS filing system which allows *Replay* to playback films/samples of formats other than its own.

One of the formats that MovieFS supports is Apple's *QuickTime* which is similar to Acorn's own Replay system. It does not support Apple's relatively new QuickTime VR (an extension to QuickTime) but Warm Silence now has a player which does exactly that.

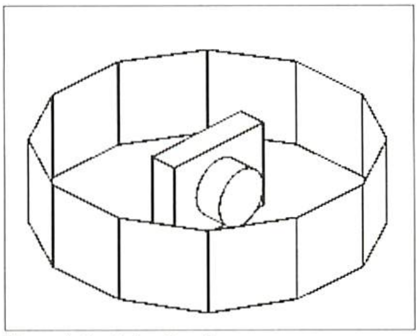
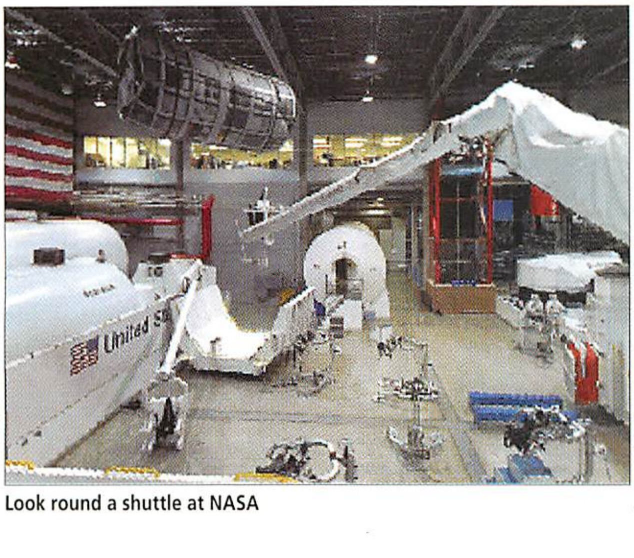


Figure I: Grabbing the view

What is QuickTime VR?

QuickTime VR is a system which allows 3D objects and views to be displayed as a still or sometimes moving image known as a QuickTime VR movie. Rather than storing objects and scenes as 3D data and then calculating and displaying the resulting picture, QuickTime VR stores an object/scene as a series of pre-rendered views and then displays the correct one depending on the viewpoint of the user.



Look round a shuttle at NASA

This may sound quite a complicated method of achieving a 3D view but actually works well and has a number of benefits over the traditional, mathematical way of generating 'real' scenes. First off, individual scenes can be as complicated as you want because they are pre-rendered. You can even use real photographs for scenes and one of the most common uses of QuickTime VR is in the display of panoramic imagery.

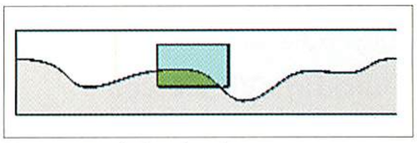


Figure II: Rendering the view

To understand how QuickTime VR works, it's useful to know how a QuickTime VR movie is created. A movie can be made from photographs, video stills or pre-rendered computer images. Photographs are most common because they produce more realistic results and are probably the cheapest way unless you have a machine like a Silicon Graphics workstation handy for creating the complex scenes.

A QuickTime VR movie is created by placing the camera at the viewpoint for the scene and then taking a series of shots at 30 degree rotations until the whole panorama has been photographed. The images are then digitised and stored on PhotoCD to maintain quality – Figure I.

Rather than having to carefully position and match all the photographs together, QuickTime VR warps the images, maps the overlapping parts of the photos and then joins (or stitches) the whole lot together. If you could see the image at this point, it would look completely wrong due to the distortion created by warping the pictures to make them fit.

In some ways, this is similar to 'Mxxxx projection' which is sometimes used in atlases to show the earth as a flat image. This

The Web in 3D

has the effect of making land look bigger than it is, the further north (or south) you move from the equator.

When a QuickTime VR movie is viewed, the image you see is a window on the whole panoramic scene — Figure II — which is unwarped in real-time to produce a distortion-free image. As you "turn" in the virtual space, the viewer application follows your movements and unwarps and displays the relevant part of the panorama.

There is another type of QuickTime VR movie which can be used to look around a single solid object. In this case, each view of the object is stored as a pre-rendered frame and then the correct frame is displayed depending on the viewpoint.

Like the panoramic QuickTime VR scenes, it has the advantage that an object can be as complex as required because all scenes are pre-rendered. You can also use real objects and therefore real photos to create the movies, although positioning the camera around the subject at all the required angles is not exactly easy.

QuicktimeVR viewer

Warm Silence's *VRview* application comes on a single floppy disc and is installed by copying the program to your hard disc. At present, it requires at least a 16-bit screen mode — one with 32,000 colours — to display some QuickTime VR movies, and therefore only works on Risc PCs or machines fitted with Computer Concepts' ColourCard.

To run a QuickTime VR movie, all you need do is double-click on a suitable QuickTime VR file. If it's a big file, a small hour-glass in the shape of a spinning 'Q' appears for a while, after which the movie is displayed.

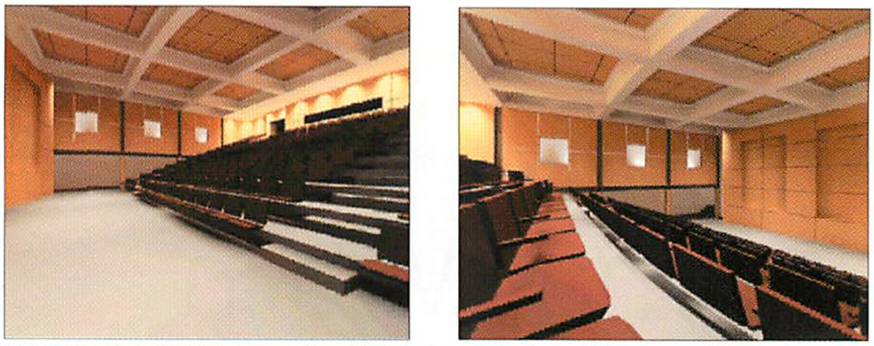
At present, VRview displays the movie directly on the screen without using any windows. This is probably because it is such a processor-intensive task and requires as much bandwidth as possible. I tested the software on a StrongARM Risc PC which positively bombed along and I would hope that there wouldn't be too much difference if proper windowing was used.

Navigating a QuickTime VR file is simple: you just move the mouse around in the direction you want to look. In panoramic movies, up and down movement is limited, although it's still possible to look down to your feet or up in the air. Side to side movement is completely unrestricted though, even allowing you to turn on the spot forever.

It's possible to zoom into a scene although this in effect only means enlarging (or shrinking) the current view. Some sense of perspective does occur due to the way that QuickTime VR unwarps the image but it is really only an optical illusion.

One way to achieve a navigable scene is to have a number of panoramic views linked by hotspots. These are special points within a scene which when highlighted by the cursor, allow you to jump to that spot and then look around from there.

Imagine a single floor of a house where a QuickTime VR movie has been created for each room. These movies could then be linked to create a single walk-through of the whole floor. Architectural modelling and scene visualisation are two good examples of where QuickTime VR can be used to good effect.



Two views of a computer-generated auditorium (from http://www.lightscape.com/)

How good is it?

VRview was tested on two different Risc PCs: one with an ARM700 processor and one with a StrongARM. It performed extremely well on both, especially on the StrongARM where all movement was super smooth, even at 16bpp and 24bpp modes.

There was a noticeable difference in performance when running the software on the ARM700 Risc PC with the cache turned off (almost the equivalent of an A5000 with Colour Card), but it was still quite usable and managed a rate of around five frames per second when panning around or zooming in/out of the scene.

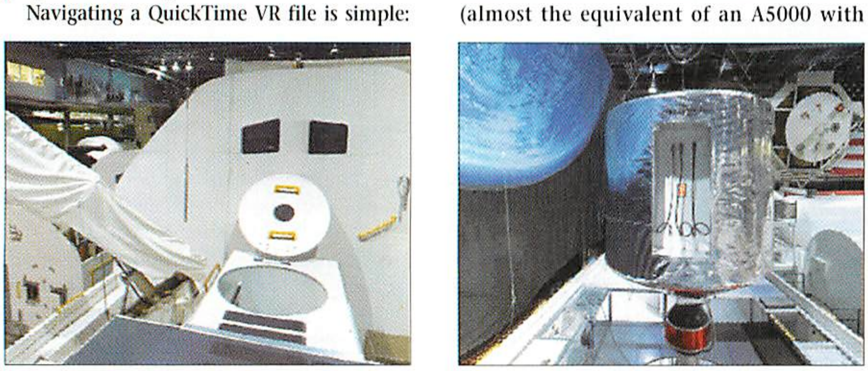
VRview is fast and allegedly out-performs the current version of QuickTime VR for the Apple Mac. Saying that, I would expect any piece of software re-coded for the (StrongARM) RiscPC to run quickly. It is not possible to run it on anything other than an A5000 (with Colour Card) A7000 or Risc PC due to the requirement of a 16bpp mode for displaying QuickTime VR objects, so the question of speed does not figure on other less able machines.

What use is it?

To be honest, its use is a bit limited at the moment because most — make that *all* — the software which uses QuickTime VR is written for the Mac. You can still get hold of and view individual QuickTime VR files, many examples of which are available on the Internet at Apple's QuickTime VR Web site at http://qtvr.quicktime.apple.com/

And other sites use them. One area where the program would be genuinely useful would be as a plug-in for a Web browser to enable QuickTime VR files to be viewed online. ANT is rumoured to be introducing plug-in facilities to its Fresco Web browser and Warm Silence has the technology, so we could well be seeing this in future.

At present and on its own though, VRview remains a bit of an executive toy, although it's an excellent way of showing off your computer's power to any PowerMac-owning friends. AU



Two views of the Space Shuttle from NASA that fit together (from http://www.nasa.gov/)

Contact details

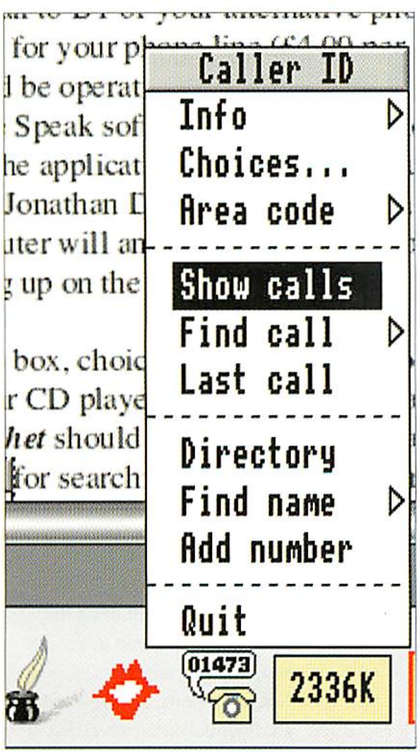
Product:	QuickTime VR viewer
Price:	Introductory price of £20 + VAT
Supplier:	Warm Silence Software, PO Box 28, Woodstock OX20 1XX
Tel:	(0585) 487642
Fax:	(01608) 737172
E-mail:	info@wss.co.uk
WWW:	http://www.wss.co.uk/

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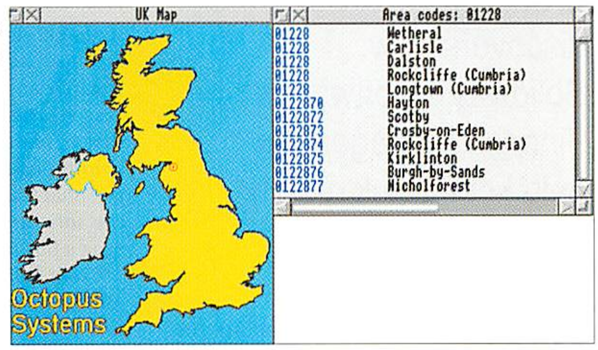
Missing an important call in a small or large business, even at home, can be a problem. It would be very useful to know who had called while you were out or away on holiday. An answering machine goes a long way to solving this problem but many people prefer not to talk to them, or perhaps the call wasn't that important — to them.

Caller ID, from Octopus Systems, is a combination of hardware and software that monitors all incoming calls as to their phone number and, where possible, their location in the UK. A small box, with generous-length leads, connects your computer's serial port to the telephone socket — the newer style serial port is required so owners of A310, A540 and A400 will need a serial port card as well, you'll also need one if you already use the serial port for something else — thanks to Atomwide for supplying mine. A dual port splitter was supplied so the phone remains connected.



The iconbar menu has everything you need for quick use

The REN value (a measure of load on the telephone system) of the box is 0 and it takes its power from the serial port so there are no further complications to your current setup. A phone call to BT or your phone company is needed to turn on the caller ID system for your phone line (£4.00 per quarter with BT) and within 24 hours the system should be operating. Two discs were supplied, one with Caller ID on it and the other with the *Speak* software by Jonathan Duddington.



Find out where the call is coming from

You can build a database with names associated with a number and, when that number rings, a small window pops-up with the phone number, time and the name of the caller — with Speak enabled it will announce the name of the caller too, in case you're not at your machine.

The menu options on the iconbar icon cover the usual info box, choices for which serial port, to show the map, area code names, speak the name or automatically mute your CD player so that you can hear the phone and announcement when a call comes in.

You also have facilities for searching your database by name or number, displaying the Directory of names or a window to show you the list of calls received to date. You can add names and numbers easily, either as they come in and you find out who they are, or by outputting your names and numbers from an existing database in CSV format and importing that.

I'd say the system has an obvious leaning to business as important calls can be immediately distinguished from less important ones. If a customer is cut off or you were not there to receive the call you know they called when you return and you've got their number to call them back.

Octopus have also added features so you can execute a file or load a document when a specific number rings. In addition there is a built-in interface with Apricote Studios *Prophet 3* which will automatically open the details of the relevent account. If you use BT's ring-back service Caller ID will remind you of the number and name dialled once it gets through, even if you have multiple ring-backs on the go.

You can also specify a number as being from a fax and redirect an incoming call to *ArcFax* — I didn't test this feature as I use two lines but there's no reason to doubt it considering the excellent quality of the software, much better than those dreadful fax-splitters. I can see this would be a real advantage to those with a single line for fax and phone — ownership would be justified for that feature alone.

This is a brilliant application which has been well thought out. Octopus itself use the system and this shows as there are no awkward or annoying aspects to operating it. After the novelty wears off Caller ID is a very useful tool to improve communications by phone. It stops you missing the vital calls - or even avoid those you don't want. AU

Product details

Product:	Caller ID
Price:	£99 (with Speak, £125)
Supplier:	Octopus Systems, 9 Randwell Close, Ipswich IP4 5ES
Tel:	(01473) 728943
Fax:	(01473) 270643
E-mail:	sales@octosys.co.uk
Web:	http://www.octosys.co.uk/

Balancing the books

Mike Tomkinson discovers how Solloway's Software's Finance Manager can help keep track of your personal accounts

As my overdraft usually resembles the national debt of a small African nation I have a vested interest in any method of monitoring and managing my bank account. Perhaps with that in mind I have been given the job of reviewing this new software package designed to help keep accounts on the right side of in credit.

It is a sad fact of modern life that most people's personal finances have become immeasurably more complex in recent years. The simple process of receiving a monthly salary paid straight to a bank account rather than a weekly pay packet paid in cash adds greatly to the need to *manage* that money rather than let the money manage you.

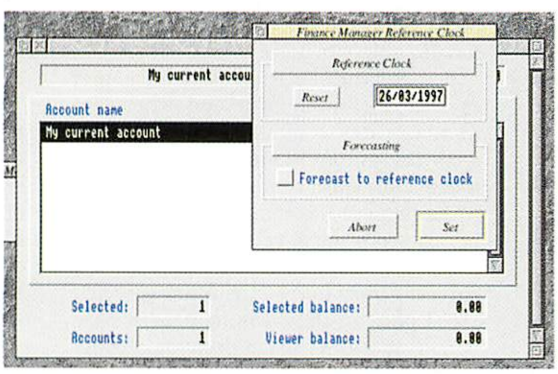
Bank accounts, interest, overdraft charges, standing orders and direct debits and so on may appear to make life simpler but are as prone to mistakes as any other monetary transaction. Direct debits in particular need careful scrutiny as they are basically a licence for someone else to take any amount of money out of your account. Bank statements are usually no more than historical documents by the time you finally receive them and who checks them anyway?

Recent moves by the Inland Revenue towards self-assessment mean that it is even more crucial to keep track of income and expenditure, especially in the area of personal finance and, in particular, in areas which are cash rich, as these will quickly be targeted by the Inland Revenue as areas worthy of particular scrutiny. The penalties for late or wrongful completion of tax forms are high. Interest will now be charged by the taxman for late tax entries.

Managing personal finances

It should seem obvious that a computer is an ideal tool for helping to manage personal finances but it requires software. The case clearly exists for dedicated software, that is something dedicated to the task of helping users maintain and manage their personal finances. It should be stressed that the software under review is not for running a business – it is for personal finance.

Colin Solloway looked at other packages on the market for the Acorn and thought he could produce a better package himself. The result is *Finance Manager*. A demonstration copy is included on this month's cover disc so that you can evaluate the software yourself. A manual is included in the directory as a help file but the full version comes with a very comprehensive printed version.



In use the software performs the tasks it sets out do. It is extremely easy to use and this is important in a package like this as you need to be able to understand both what and how things are happening. The software needs to be intuitive in use and able to handle the complexities mentioned above.

Separate accounts

Accounts are set up so that you can have, for example, bank and building society accounts as well as credit card accounts. Screen views of these accounts are easy to manage and this is particularly important as the software needs to be highly visible if it is to be easy-to-use. The software is only as good as the user interface otherwise people will not use it. As an example compare your last gas bill with your last phone bill – which do you really understand? I would guess that your phone bill is the more difficult at first glance.

Finance Manager has a number of very useful features such as the ability to import as well as export as a CSV. Similarly the password protection is vital on any program where money is dealt with on a computer.

Keeping track

In use transactions are created and are usually uncleared, at least initially. A date is assigned to the transaction and it can have both a reference, for example a cheque number, and a description. The description should be meaningful and will serve as a prompt as to what the transaction actually was, i.e., a purchase of petrol.

Transactions are uncleared at this stage and can be viewed as uncleared transactions – they are analogous to a commitment on a full accounting package. Transactions can be transferred to other accounts and edited. Unlike most business accounts packages they can also be deleted so that mistakes are easy to rectify.

Most users will clear transactions against their bank statements when they eventually arrive. The technical term is to reconcile the account. Of course many payments that are automatic are either standing orders or direct debits and these are set up as automatic payments. It really is that simple and only requires a little self-discipline.

As well as a historical reference to your account(s), Finance Manager can also be used to forecast and budget so that future problems can be foreseen and avoided and money can be transferred between accounts in time to prevent problems.

In conclusion the software will be staying on my hard disc and being used to reduce the overdraft to at least a point where my bank manager complains a little less regularly. AU

Product details

Product:	Finance Manager
Supplier:	Solloway Software
Address:	23 Portland Drive, Willen, Milton Keynes, MK15 9HD
Tel:	(01908) 233206
Price:	£30 (no VAT) – includes a full printed manual, free telephone support, free upgrades to future versions, and free and confidential data conversion from other personal finance packages

excellent value

CD ROMS

THE ClipArt COLLECTION CD

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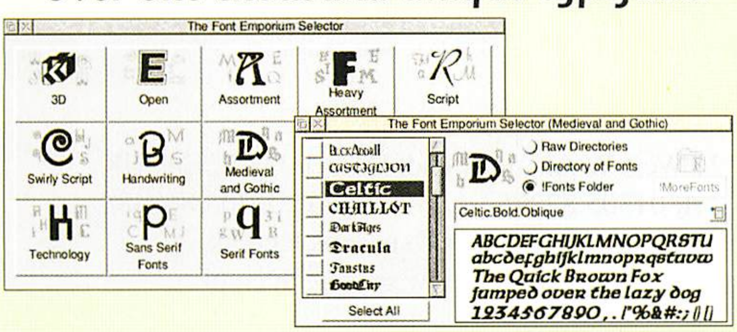
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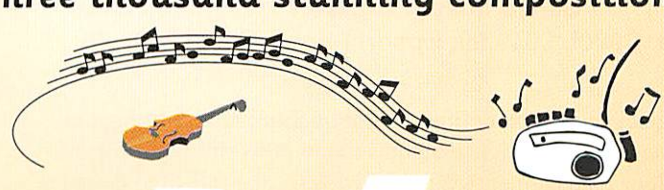
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Three thousand stunning compositions



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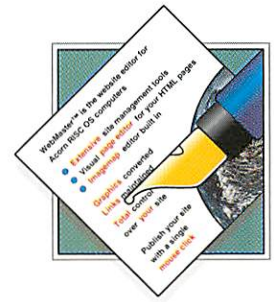
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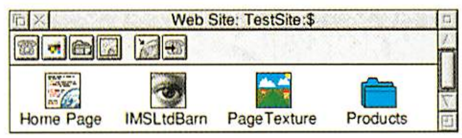
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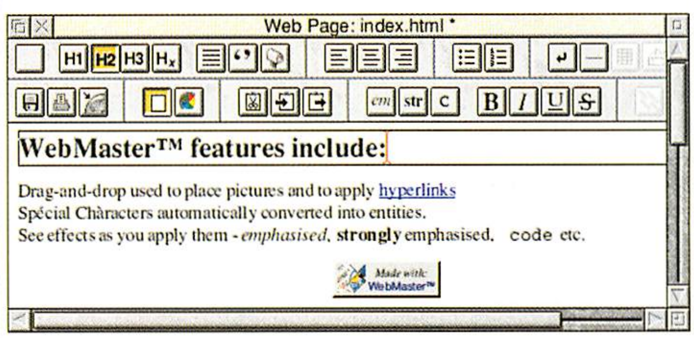
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Best of all  possible worlds? 

Ian Burley and **Gareth Lofthouse** assess the commitment of the main political parties to Information Technology

As this is being written, there are still more than five weeks to go before the general election on May 1st. The campaign bandwagon has hardly moved off the starting line, being bogged down by early tit-for-tat accusation about political sleaze.

It's very possible that the fortunes of the parties may have changed by the time this is published but right now the Conservatives and Liberal Democrats have a mountain to climb if they are to rein in Labour's unprecedented 25 point opinion poll lead.

We thought it was an appropriate time to try to assess what the main political parties are promising on such issues as IT in education and also take a look at how the different parties are using the Internet in their bid to win the election.

So just what are the three main parties saying?

Conservatives

The Tories are keen to demonstrate their enthusiasm for using technology to introduce new ways of learning at school. "As a society we have grown used to thinking about IT in terms of desktop computers and software," Gillian Shephard said in her speech at BETT - the education and technology exhibition held in January. "But to the education world this is far from the case. Teachers know that IT capability is about what can be done with IT. They know that it is about the enhancement it can deliver to their subjects, what new knowledge IT brings in itself and about understanding its implications for society."

She claims that because of this viewpoint, the government's Superhighway Projects have been focusing on IT as a means of providing educational services and that the UK is already a leader in this field thanks to government initiatives.

The government has periodically allocated money to projects designed to stimulate the adoption of targeted forms of IT in schools, like CD-ROM multimedia and, more recently, notebook computers with multimedia facilities. However, it has rarely advocated large-scale funding of new technology for technology's sake, leaving local authorities and individual schools to make their own decisions. If you look at the Conservatives' Web site, the emphasis is on past achievements and continuity.

Labour

Labour wants to do a deal with British Telecom to provide free basic Internet service to all schools.

The much-vaunted BT deal will create a national grid connecting schools to the Internet free of charge, and Labour claims it will eventually provide access to on-line educational materials and software, and that it will be privately funded.

Labour is dismissive of the Superhighway initiatives announced by Gillian Shephard; Estelle Morris, Labour's Shadow Schools Minister claims that more needs to be done: "Lack of interest from the DfEE means that insufficient encouragement has been given to using computers as part of networks." She says Labour authorities are already leading the way in the imaginative use of IT in

Tory pledges

- A new Information and Technology Fund worth about £300 million a year, to start next century
- All schools to be linked to the Superhigh way by the year 2000, in partnership with private industry
- A DfEE scheme to give schools free second-hand computers donated by industry
- New challenge to industry to pilot Internet and multimedia technologies in schools and colleges
- Advice to be made available to all schools on IT purchasing and good practice
- National Educational Multimedia Offer scheme to encourage new proposals from industry to provide discount arrangements for bulk purchase on a range of educational IT services and equipment



Labour pledges

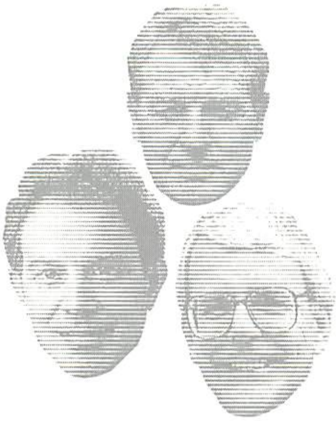
- BT and cable company deals to provide free Internet access for schools
- National Grid to be established, providing access to on-line and vetted educational material and teacher resources
- Lottery funds to be allocated to the needs of education and young people
- Teacher IT training will be improved, again using Lottery funds
- Establishment of Schools Effectiveness Unit to help schools learn from successful IT projects
- To encourage educational software to be developed for consoles
- Hardware and software would be avail able for homework from computer libraries
- Working party chaired by Dennis Steven son is developing partnerships with com puter manufacturers to address the prob lem of outdated technology in schools



Mock election

Technology is making it easier for students to be heard as well. You still have to be 18 years old to participate in the real thing, but 100,000 students from 250 schools around the country will be taking part in a mock election run by DRS Data & Research Services plc, a company specialising in automated data capture systems. In fact, the vote took place just before this article was completed, but alas – the results won't be revealed until a week or so before the official general election. You can check the students' views then at http://www.drs.co.uk/election.htm on the Web.

Best of all possible worlds?



Liberal Democrat pledges

- £2 billion to be allocated to education, funded by a tax rise if necessary
- £500 million programme to tackle the backlog of repairs
- A standing committee to be established to advise on minimum standards necessary for IT in schools
- Plans to work with industry to give all schools access to Information Super highway
- Proposal to give tax breaks to teachers to assist IT purchases under consideration
- Proposal under consideration to spend a further £1 billion equipping all children over 10 with a computer



teaching. In Suffolk, for example, the country's first *televersity* has been set up to end the isolation of small rural primary schools, consisting of 15 learning centres packed with the latest technology. "A Labour government will disseminate such examples of best practice through their new School Effectiveness Unit at the DfEE."

Liberal Democrats

The Liberal Democrats want to add a penny to income tax to make a major investment boost to the general infrastructure of schools.

Like the other parties, the Lib-Dems would allocate some money for educational IT from the Lottery, and they have the same deal with BT and the cable companies as Labour. Nigel Jones, Science and Technology spokesperson contends that they are willing to invest more: "I see government as needing to provide some of the money. The Tories are too much into letting the private sector do it, and what you're seeing is US companies coming in and cherry picking towns and cities to put their cables in, while rural areas are missing out."

They are also considering plans to ensure schools are up to speed with new technology. He contends that this substantial investment in IT for schools won't be at the expense of more basic needs. "I think we need to provide books as well, but there are currently things which are done with books which actually ought to be done with technology as well," he said. "For instance, you'll have electronic libraries with approved, bang up-to-date educational material."

E-mail for everyone

An independent report on the state of IT in schools, commissioned by the Labour Party, has recently been published. Chaired by Dennis Stevenson, the report suggests that every child in Britain should be given their own e-mail address, all teachers be connected to an Education Network, all children who don't have a computer at home should be given access to one, there should be tax breaks to encourage teachers to buy their own computer for both home and school and, finally, a minister should be appointed with a specific remit to improve IT in schools.

Tellingly, the report also says that there need not be any significant increase in expenditure on hardware. According to the Stevenson Report, "The costs of the measures are relatively small and should be affordable from within the Government's education budget."

Xemplar's views

Brendan O'Sullivan, who heads up the Acorn and Apple educational computing joint venture, Xemplar, was diplomatic about all the parties when we spoke to him recently. However, Xemplar has made a somewhat controversial decision to sponsor part of the Labour Party's Web site. "I believe IT in schools is extremely important. We will support anybody who will invest in IT for schools," said O'Sullivan, who added that he was encouraged by what all the politicians from all political persuasions were saying about improving IT in schools. However, the bottom line is that O'Sullivan believes that Labour are taking a more 'courageous' view which was strong enough to gain Xemplar's official support.

By and large, most people we spoke to within the Acorn community were generally apathetic about the forthcoming election and most would not admit to having made up their mind who to vote for. However, Xemplar's sponsorship of the Labour Party Web site did surprise most we contacted. Xemplar is clearly betting on Labour and with their lead in the polls at the time of writing it looks like a safe bet, but the government surprised everyone last time around and with more than five weeks to go, anything is yet possible. AU

On the Web

There is no doubt that the information superhighway will make its mark on a UK general election for the first time. All the main parties have very sophisticated World Wide Web sites, complete with information search facilities and e-mail contact addresses. Five years ago, the WWW was still an obscure project being nurtured by its inventor, Tim Berners Lee, and his colleagues.

The Rt Hon Dr Brian Mawhinney MP, chairman of the Conservative Party commented on March 19 that, "As from today up to four million people in the UK will be able to e-mail the Prime Minister and the Conservative Party. E-mail is a key campaigning tool that the Conservative Party is exploiting in the run up to the election."

Web sites

A good starting point for lots of links to relevant sites in the run up to the election is the UKOnline site:
http://www.ukonline.co.uk/UKOnline/Politics/contents.html
To go direct to the parties' Web sites here is a selection of addresses:
http://www.conservative-party.org.uk/
http://www.labour.org.uk/core.html
http://www.libdems.org.uk/
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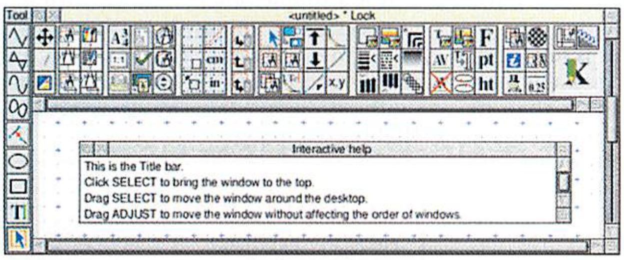
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Spring time is sale time

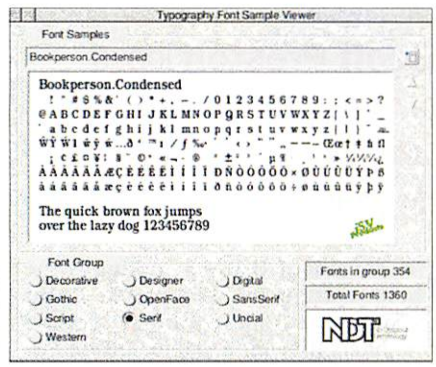
WELL, NOT so much a sale but a special offer which will please all those who like lots and lots of fonts. iSV Products has just launched the *Typography* CD-ROM at a cost of £46.50 (no VAT is payable). The library of fonts includes all of iSV's current range previously supplied on floppy discs, plus 200 additional fonts never before released making a total of over 1,300. Add to this iSV's brilliant *Font Designer's Toolkit,* which currently retails at £31.50, and the whole package looks very attractive indeed.

Also from iSV version 2 of *DrawWorks* which is now available. Those who use *Draw* will find DrawWorks2 a valuable utility which adds a great many features to what is already an excellent program. It costs £21.50 (no VAT is payable)

iSV Products may be contacted on (01344) 55769.



Yes it is Draw, honestly! DrawWorks2 adds a button bar and a host of additional features



For font fans everywhere – 1,300 high quality outline fonts and a designer

Ribble Ribble

IN THE March 1996 issue of *Acorn User* I mentioned a set of *My World* screens produced by Graham Dean to support KS2 Geography. These are now downloadable from Graham's Web site along with other files which might be of interest to teachers. These include a hypertext reference file about bridges (aimed at KS2 pupils) and a collection of JPEG images of the River Ribble from source to sea which will be changed each month.

Currently there are just two introductory shots and a map but the series proper should have commenced by the time you read this, with four images of the source of the river and surrounding area. Although the Ribble series is aimed at teaching the theme of Rivers at KS2, during the next 12 to 18 months there will be images which will be of use in the teaching of other Geography topics, such as settlements, communications and limestone scenery.

Graham Dean may be contacted on deano@argonet.co.uk. His Web site is http://www.argonet.co.uk/users/deano

Tesco fifth year

THIS YEAR'S Tesco/Xemplar Computers for Schools scheme is powering up early with mail-shots going out to schools announcing some of the star buys.

Top of the list is a class-pack of 256K Pocket Book II computers for 6,000 vouchers or, for only 2,000 more, is the class-pack of 1Mb versions of this superb palmtop computer. Also included in the class-packs is a serial lead to link to either Acorn, PC or Apple desktop computers. Apart from hardware, a wide choice of software is on offer for all three platforms. Most of the top names are there, although surprisingly neither 4Mation or CSH have products listed.

Old Acorns

AN INTERESTING e-mail from Charles Morgan of Carlton Software asks if anyone has any old A3000 computers or better that are lying around that they would be prepared to donate to a local primary school. The problem with Acorn computers (if you can call it a problem) is that they don't date as rapidly as other models. I have a large network containing over 100 Acorns, some almost 10 years old. Two operating system upgrades, three memory upgrades and faster processors plus various other enhancements and they run the same software as the very latest top-of-the-range Risc PC. They're not as fast but they still work reliably.

If anyone does, please contact Charles Morgan on charles@carltsw.demon.co.uk

Improve your handwriting

THE JARMAN Handwriting font which may be used to complement the use of the scheme 'Developing Handwriting Skills' published by Stanley Thornes, is now available in PC TrueType, Mac TrueType in BinHex, Mac Type 1 printer and Mac Type 1 screen format, as well as the RISC OS outline font.

All these versions can be downloaded from Chris Jarman's Web site. The Acorn version is also available from the Argo FTP site but e-mail Chris at quilljar@argonet.co.uk if you would like copies direct. His Web site is at http://www.argonet.co.uk/users/quilljar

Download these two fonts from
http://www.argonet.co.uk/users/quilljar

Create handwriting exercises with Chris Jarman's fonts which are free

Contacting me

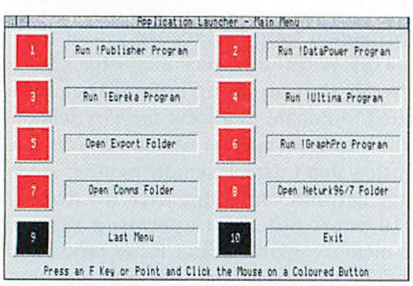
You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: aueduc@idg.co.uk

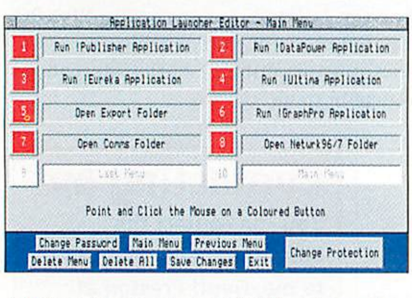
Desktop protecti

Geoff Preston looks at three programs to stop little fingers reeking havoc on your hard disc

I'm convinced that networking is the best solution for schools but I also recognise that unless you have several computers it is not a viable option. Primary schools with one or two computers in a couple of classrooms will probably prefer to use local hard discs, but then comes the problem of several children having free and unlimited access to the entire contents of the disc. Some of the possible solutions for anyone who wishes to restrict access to a local hard disc and make application launching a little easier come from three software houses who are very well known in the Acorn community.

AppLaunch by Eric International





AppLaunch is an application launcher with built-in security enabling teachers to password protect the whole hard disc but allow students access to selected applications and directories which may, for example, be relevant only to the current lesson.

Unlike some other security programs for Acorn computers, AppLaunch is very quick to install. After copying the program from the distribution disc to the hard disc, the program is loaded in the usual way. I feel it's probably best to install it somewhere other than in the root directory and at this point it might be wise to add a line into the Boot sequence to install it automatically when the computer is switched on. A line something like:

```
Filer_Run
ADFS::IDEDisc4.Secret.!AppLaunch
```

would be appropriate where **!Applaunch** is installed in a directory called **Secret** in the root of a directory on a hard disc named **IDEDisc4**.

When full security is implemented, all the filer icons will be hidden thus preventing any unauthorised access to the discs. As a bonus, because the floppy disc icon may be protected, pupils are prevented from installing their own applications – including viruses.

Clicking Menu on the application icon displays a menu with just one option (apart from info and quit): Administration. This is the part of the software which will be password protected. The administration area is where the teacher may set the filer security and set the tasks or combination of tasks for the launcher. Tasks are set by dragging application or directory icons into a window. When completed, the information is saved and the administration window closed down, automatically setting the security.

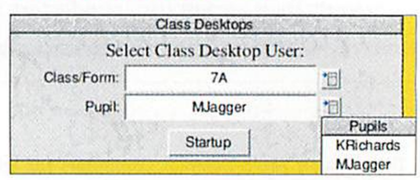
In use, the student is presented with a window containing 10 numbered boxes which, when clicked upon, launches an application, opens a directory or allows the creation of a series of sub-menus. Pressing the corresponding function key has the same effect. The teacher could, for example, set up the program so that a pupil can go through the boxes in a particular order to complete the work, and then leave the computer in the same state as they found it. The program can be set up in a variety of ways, by subject, teacher, task etc and can store over 500 possible functions.

It is a simple program to use with no unnecessary graphics and a very easy-to-follow manual. It does the job simply and effectively but most importantly, it doesn't take an age to set up. Highly recommended.

Product details

Product:	AppLaunch
Supplier:	Eric International
Address:	Pepabera, Findon Road, Findon, W Sussex, BN14 0RD
Tel/Fax:	(01903) 872400
Price:	£19.95 (inc VAT) for single user or double for multiple or net work users

ClassDesks by iSV





ClassDesks is a protection system for the desktop which is set up in a similar fashion to a server/client network. You have to create classes and within each class create students. Each student will have access to his or her 'area' only and will have a set number of applications available.

The distribution disc contains two applications: *ClassDesk* and *SetClass*. ClassDesk is the main program which includes a host of protection including greying out all hard disc icons (including ADFS, SCSI, IDE and IDEFS), disabling f12 and greying out the task icon so that you can't escape from the desktop. Further restrictions include preventing applications being copied onto a floppy disc and blocking any attempt at re-configuring the system.

As with all iSV products, the manual is in the form of a desktop application which may be run alongside the pro-

o n

gram. To install ClassDesks simply drag the application into a suitable area of the hard disc. As with AppLaunch, it's probably best to install it somewhere other than in the root directory and it would be worthwhile including a line in the Boot sequence to launch it automatically on power up

To configure ClassDesks, load SetClass – it is recommended that this is left on the floppy disc and not copied onto the hard disc. I recommend this approach too as there is no password protection whatsoever and illegal access to this program will automatically disarm all other security.

Once SetClass is installed, the system needs to be configured for the pupils to use. The program allows for the creation of class groups with pupils placed within those classes, although this may not necessarily be appropriate. If you do choose this route and you want to include everyone in the school, be prepared to spend some time typing as there is no provision for dragging in a pre-prepared file of names. That said, in the case of a single primary school class, the task of entering names is not that great.

When the program is run, the user must select the appropriate class group first and then name from the start up window. The only filer icons available will be *YourData* which can freely be read and written to, and *ClassApps* which contains the applications relevant to the user which can be run as normal but cannot be altered or copied onto a floppy disc.

Although more complicated to set up than AppLaunch, this is a very able program. Once the teacher has set up the program for the individual child the only way to allow another onto the computer is to either switch off or install SetClass to select another user.

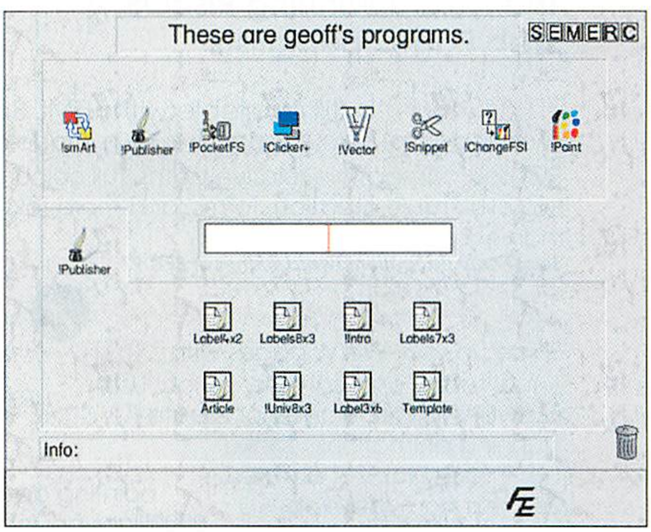
Product details

Product: ClassDesks
Supplier: iSV Products
Address: 86 Turnberry, Home Farm, Bracknell, Berks, RG12 8ZH
Tel: (01344) 55769
Price: £31.50 (inc VAT) for five machines with a full licence for £61.50 (inc VAT)

FrontEnd by SEMERC

FrontEnd was designed primarily to make access to the hard disc easier. However, the very nature of the program offers a degree of disc protection. This will not stop anyone with more than a passing knowledge of computers but is probably adequate for most primary schools.

The software is first copied onto the hard disc and once again it's worth writing a line into the boot sequence to load and run FrontEnd automatically on power up. On the distribution disc along with the program is a folder called Work which must be copied into the same directory. The Work folder must contain a folder called Everybody which will eventually contain the details about the programs and files which will be available to all users.



FrontEnd uses Jotter font and this is supplied on the distribution disc. Beware, there is also a PD font called Jotter and this will not work properly so use the one supplied.

The software is configured for general use and for individuals to use. Configuring is simplicity itself: type Edit and then begin dragging application or document icons from filer windows into the FrontEnd window. I found it better to have as few icons as possible in the 'Everybody's' window as these will form the basis of the available programs in the pupil's individual FrontEnd window. When finished adding application and program icons for everybody's use, type in the name of a person and a new FrontEnd will be created. Drag icons into the window as before. The icons are automatically positioned as neatly as possible in the window and FrontEnd automatically saves the data as it's created.

Rather than entering the name of a person, there's no reason why the name of a lesson could not be used. The pupil would then enter this and all the programs and files required for that lesson would be displayed with no others thus eliminating confusion.

When run, the user will be presented with a window containing general software for all to use. Type in the name of a user and software and work for that user is displayed. The clever part is that files are only displayed when the appropriate application is selected thus keeping the windows as clear as possible. The icon bar is hidden and FrontEnd cannot be quit when in use by pupils. Another key feature is that the program can be used by people who use switches to access the computer.

Product details

Product: FrontEnd
Supplier: SEMERC
Address: 1 Broadbent Road, Watersheddings, Oldham, OL1 4LB
Tel: 0161-627 4469
Fax: 0161-627 2381
Price: £19.95

Die Speccy

Graham Nelson reviews the ZX Spectrum package from Warm Silence Software

Warm Silence Software has a well-deserved reputation for its utilities. Some companies produce the kind of tools you could make yourself if you could be bothered to – backdrop changers, spare memory meters and so on. Warm Silence also writes the other kind – its main products are viewers for Quicktime, AVI and other movie formats, and two emulators. This is a review of its *Z80Em* – really a ZX Spectrum emulator – and its optional extra, a CD of Spectrum games programs. I hope to cover *6502Em* – for the BBC Micro in its various forms – in a future issue.

As I sit here, my head grown slightly bald, I have been trying to remember when I first saw a ZX Spectrum. The Sinclair ZX81 had been popular – computers under £100, a miracle! – but never quite felt genuine. People squeezed astonishing programs into its 1K of memory. It was even persuaded to play chess, though its game was modestly described as 'not illegal'. But that physique never inspired confidence – the tiny pressure-pad keyboard, the wobbly RAM pack connection and a printer which was like feeding medicated toilet paper into a supermarket till.

Upmarket, the rival was the Acorn Atom, a solid machine with a high-brow pitch: it had an assembler built in and a manual full of mathematical virtue. But it cost twice as much. The pattern was repeated with the ZX Spectrum and the BBC Micro: the BBC Micro was 'serious' and had a real keyboard, one that would survive cups of coffee being poured through it. The Spectrum was turned out as cheaply as possible, with clammy rubberised keys which didn't so much click as squirm under the finger.

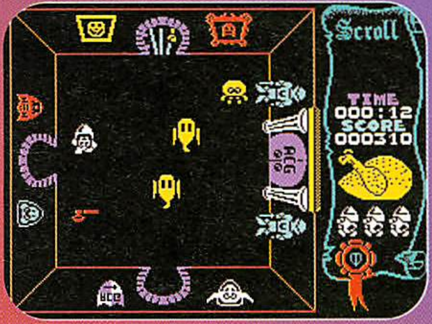


It sold and it deserved to sell. Crucially, it was just within Christmas present range for teenage boys. I was jealously trying to write games for a BBC Micro instead and couldn't help envying the Spectrum design: 48K of memory, of which only 8K went on the screen. It had both the full colour range – which is to say, all eight – and a decent horizontal resolution. Compare that with the BBC Micro's 32K, from which all the screen modes were horrid compromises – to have full colour you lost 20K at once, and then only had 20 characters resolution across. It left about 6K for code and images.

The Spectrum screen got away with the apparently impossible, by giving colours not to individual pixels but to 8-by-8 blocks. Each character cell had its own foreground and background colour. Not only did this make the screen as a whole look gaudy and varied but changing or flashing colours across large visual areas was very fast – a matter of altering only a handful of bytes.

The Emulator

This must now be a nightmare to emulate, because where a Spectrum program could turn a shape red with only one instruction cycle of the Z80, an emulator has to alter flocks of pixels. Quite apart from that, the ordinary operation of the Z80 chip has to be imitated. The ARM has a good 14 or so free registers but the emulator has to use some of them for book-keeping so the Z80's numerous registers can't fit into what's left. However it's done, one Z80 cycle can't be achieved in only one ARM cycle so an emulator always runs at a disadvantage. On the other hand, it has 15 years of technology on its side, not to mention hardware costing up to 10 times as much.



In the case of Warm Silence's Z80Em, the emulator easily wins the race and has configuration settings to run up to twice as fast as original Spectrum speed. On my Risc PC, which has StrongARM fitted, yet higher speeds seem to be possible.

This is an exceptionally efficient and impressive program. I have been unable to find any respect in which it is incorrect as an emulator, and every game I've tried has worked perfectly – or at least, only as badly as it once did on the real thing. Z80Em is easy to install and reads 'snapshots' of the Spectrum memory in any of the three standard Internet formats. It occupies only 300K of Acorn memory and can be configured to imitate each different Spectrum model. Sound effects are convincingly reproduced – it used to be said that the Spectrum didn't so much have a sound system as a mouse living inside which would scratch the case from time to time. But it can sound fairly tuneful, if monophonic.

What Z80Em doesn't do is run in a desktop window: it is single-tasking, unlike some previous and cruder Spectrum emulators. However, pressing f12 returns instantly to

GAME SHOW

Die Speccy

GAME SHOW

the desktop while freezing the state of whatever is running. This can then be resumed, or not – useful both as a magic 'pause' key and to run away from any game which has used up its patience.

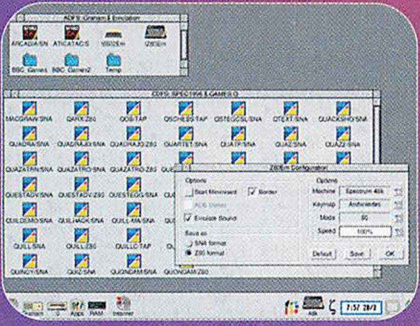
A slight nuisance is that it can be tricky to work out the keys to use. The configuration of keys is different on a modern keyboard anyway – sometimes the shape is awkward, particularly with cross-shapes for movement in four directions.

3000+ Spielen...

Warm Silence Software is not the publisher of *Die Speccy CD 1996 (3000+ Trefflich Spectrum Spielen)*, but it does sell copies on with the emulator. The games are absurdly cheap at one half-penny each and at the very end of their commercial lives. Nobody is being deprived of any serious royalties – still, that ripping sound you hear is the Copyrights, Designs and Patents Act (1988) being torn up. At least this disc – or rather, the Internet archive it reproduces – has saved a whole sub-culture of games that could easily have been lost.

After the first few hours I had a better idea of what a very large number 3000 is. It would take about eight pages of *Acorn User* just to list them all in small type. At five minutes each, it would take 30 working days to test them.

The 'A' directory alone has 172 of them, from *ACE* (the Air Combat Emulator) and *Academy: Tau Ceti II* to *Avenger*. Where on earth to begin? The famous companies are all here – Firebird, Nomen Luni, etc. And so are the famous games – Matthew Smith's legendary *Manic Miner*, *Jet Set Willy* and two sequels, one more than I thought existed, *Ant Attack*, featuring a 3D Peruvian city in the mandibles of giant ants, *Arcadia*, a dumb



but amusing shoot-everything game, Melbourne House's *The Hobbit*, an ingenious adaptation of the book and adventures of *Asterix*.

And there's plenty of total rubbish. Tom Lehrer used to say that the reason folk songs are so awful is that they're written by the people. Still, some of the home-brew games here are a breath of fresh air, like *Pimania*. The truly mediocre games are mostly commercial productions. My special un-favourites are three versions of *Strip Poker*, one of which reminds us just how old Samantha Fox must now be getting, and the 'Olympic sports' events – triggered by Los Angeles in '84, I guess – where sprinting meant hammering the keyboard as fast as possible.

The complete works of Level 9 are here, in a variety of versions, some souped up. Thus you can play *Adventure Quest* either in the clunky Spectrum font or in a very pretty Lindisfarne one, like the Book of Kells and quite unreadable for more than 30 seconds. Plenty of other text adventure-game firms are here, too: Scott Adams, Brian Howarth, Artic, Melbourne House.

...and some surprises

The CD holds more than just games. There are emulators for most machines – though the Acorn one supplied, *MZX*, runs only on older Archimedes models. There are images (mostly JPEGs) of adverts, magazine covers, buildings and programmers, pieces of hardware.

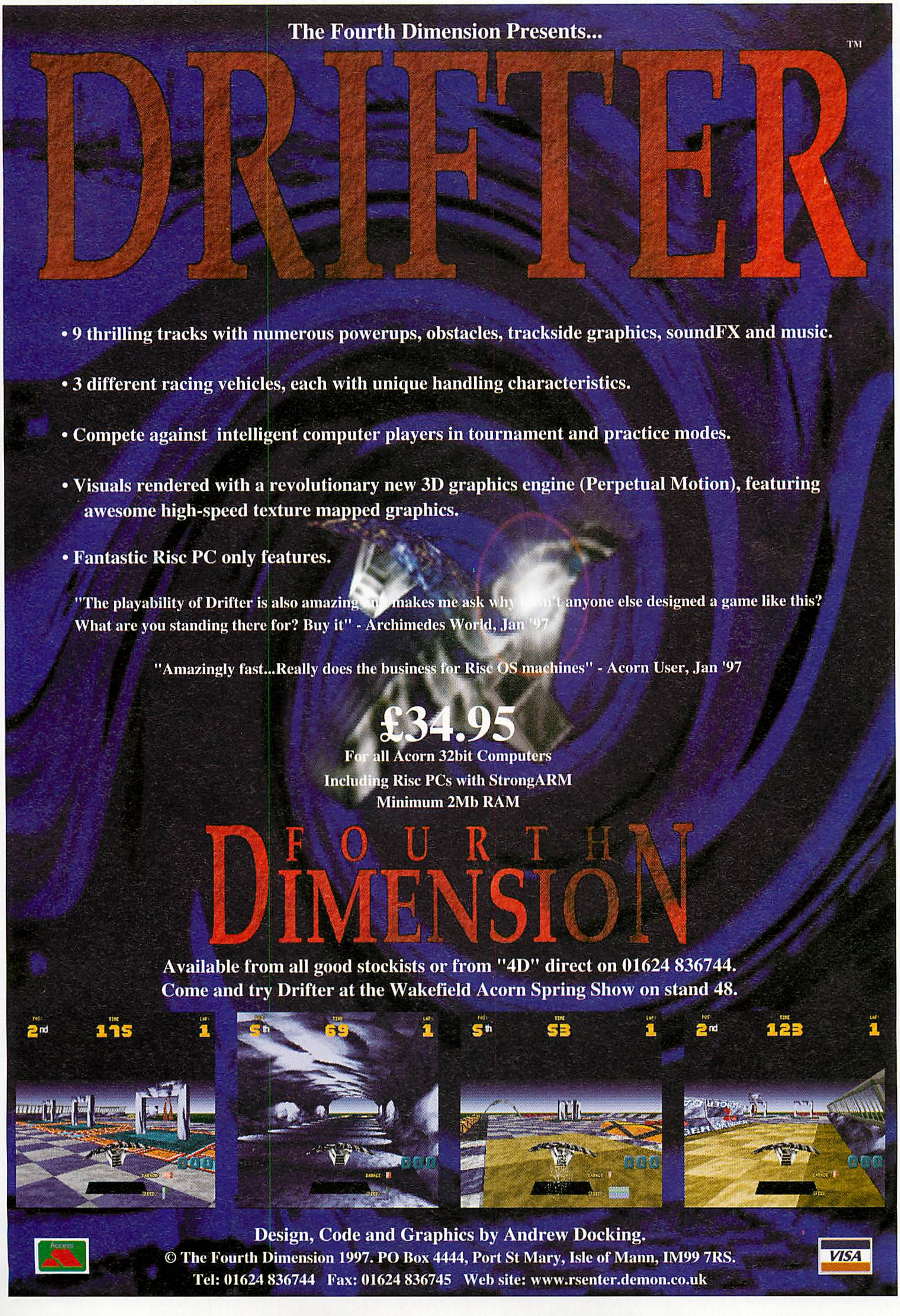
I'd forgotten what a bright, colourful design the Spectrum keyboard was until I found this directory. And the disc goes on: some instructions for the games; the original Sinclair manuals, typed in; guides to the Spectrum hardware and a disassembly of the ROM (commented in German, though). The disc is topped up with a huge and lame 'jokes' directory, some desultory music and a little clip-art.

I was afraid that Die Speccy would be like having to watch 3,000 programmes of 1980's mid-morning TV, until my brains turned to rice pudding. Some of it is like that but there are also very nice surprises among the mediocrity, and it's safe to say that you'll never run out of brand-new games to play. Don't buy an emulator without it.



Product details

Product:	Z80 Emulator
Supplier:	Warm Silence Software
Tel:	(0585) 487642
Fax:	(01608) 737172
E-mail:	Robin.Watts@wss.co.uk
WWW:	http://www.wss.co.uk/ (includes a demo version)
Price:	£15 + VAT or £25 + VAT if bought together with 6502 emulator
Pros:	Reliable • Easy-to-use • Impressive and fast
Cons:	Doesn't run in desktop • Keyboard may not match Spectrum
Product:	Speccy Emulator '96 (CD-ROM)
Price:	£15 + VAT if bought with Z80 Emulator, £18 + VAT otherwise
Pros:	Vast range • Cheap supply of classics • Interesting information
Cons:	Cheap supply of rubbish too • Hard to guess what's worth trying
Product:	Z80Em Support Pack (optional extra for disassembling code and altering some classic games)
Price:	£12 + VAT or £15 + VAT if bought with 6502Em Support Pack
Product:	Tape Support Pack (optional extra for reading BBC or Spectrum tapes)
Price:	£5 + VAT including circuit diagram for interface. Interface ready-made at £15 + VAT

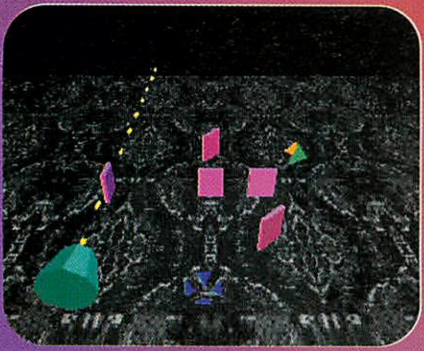

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Double the fun

Steve Mumford
reviews Mirror Image and Merp from TBA

One could be forgiven for thinking that things in the Acorn games market are a little slow – that's if you're optimistic. Less charitable people had the scene dead and buried years ago. It's true that we've suffered some blows over the last year or two, but the advent of the StrongARM will go a great way to alleviating the problem. However, we've not had access to this new-age technology for long and the first of the SA-enhanced games has yet to appear, so until then we'll have to continue waiting.

Into this void TBA has released *Mirror Image*, and perhaps surprisingly the pack contains another full game completely free. The passenger in the package is named *Merp* – more on which later. The games look somewhat dated but this is probably because they've spent an interminable time hanging around waiting to be released – I first played working copies of these around a year ago. It's a shame we've had to wait so long to receive these as I think they would have been better suited to the market if they'd been released last year.



Mirror Image

Mirror Image is a puzzle game with an arcade element – your task is to hit a target with a laser by negotiating a complex playfield full of objects such as prisms and blocks that redirect the path of the beam. As you might have guessed, there's a time delay and if you fail to hit the target in the appropriate time, that's the end of the level. The laser seems to be pretty powerful and if a beam accidentally bounces round in a circle and hits the transmitter, a unit of time is lost.

The TAG engine is used to provide the 3D visuals, so the lasers, mirrors and other assorted paraphernalia stand proud of the floor, reminding me of the physics experiments I used to do some years ago. There's a choice of four camera angles, of which the



standard overhead view is the most useful, and all of these can be zoomed in and out. Short of giving the TAG engine something to do, I'm not entirely sure whether these extra cameras serve much purpose but they do add variety. Graphics details can be switched from high to low and it's possible to toggle screen resolutions.

Running on my trusty Acorn A5000, Mirror Image has a handy 'crash' feature. If I wish to bring the game to a grinding halt, I simply press the F8 key to change to a VGA mode. Since this is somewhat hard to achieve owing to the heritage of my machine, I was expecting the operation to fail. It did – however, it also caused the entire game to exit ignominiously. I would hope that we've had long enough to come to terms with Acorn hardware so that trapping errors such as this should be a simple matter, but the fact that a commercial product can be crashed at the press of a key gives me cause for concern.



Merp

Merp is an arcade game with a completely different style. Whereas Mirror Image was designed for single-player use, its partner is best enjoyed in multiplayer mode. In this sense, the games complement each other well. Merp runs in a single screen and at the start of play the competitors, represented by coloured spheres wearing sunglasses, are dumped in an arena filled with coloured flags. The aim of the game is to collect as many red flags as you can to build up a healthy score – bumping into a blue flag will give your opponent a point.

Moving around is like walking on ice and I found myself sliding manically round the screen within seconds of starting a game. There are plenty of other objects floating around to make things that little bit harder, such as a whole host of rolling spheres and bombs that either bounce you uncontrollably around the room or stun you for a few vital seconds. You'll also see tokens from time to time, and these can increase the speed of your sphere, double the size of your flag collection or even swap the players' scores.

In summary – these games aren't going to set the world alight, but both are playable and will give you something to do while we all wait for that elusive masterpiece to appear. I just hope we don't have to wait quite so long to savour TBA's next release.





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Rambles through Acorn Wood

Mike Cook tackles another batch of your technical questions

Well I've done it – I've refitted a plug on my old ARM 610 board. A few months back I bent and snapped one of the pins in my old card when swapping it with the StrongARM. I wasn't looking forward to the job but the kids were complaining about not being able to play any of their favourite games. *StrongGuard* from the ARM club helped a little but mostly it just turned off the cache, making the computer too slow to run the game properly.

It was going to be a long tough job but when I had a few hours to spare I set to it. The first job was to remove the old plug. I fitted the finest soldering tip into my iron, but even so it felt like using a poker on the fine tracks. Then I snipped the top row of connectors off the plug as close to the back of the plug as I could, using a pair of side cutters.

Then, with the board firmly clamped, I applied the iron to the solder side while I grasped the pin on other side with my pliers. In this way I removed the top row of connectors revealing the middle row for the same treatment. Finally the bottom row was snipped and the two rivets holding the plug were drilled to remove the remains of the plug shell before the bottom row of connectors was removed. This took about an hour – next was the tricky part.

The board now had 96 holes all filled with solder that had to be cleared out. The technique I used sounds simple – apply the soldering iron to the back of the board and a solder sucker to the front. When the solder melts immediately trigger the sucker. It was a little tedious and it can be tricky getting the correct hole on both sides of the board. Most holes came clean the first time, however those that didn't were subjected to a second attempt after filling them up with solder again. This gives the sucker something to suck on. I took a break in the middle of this operation as it is very tiring – in all it must have taken another hour.

The final step was to fit the new plug, secure it on with two bolts and solder it up – that just took 10 minutes. So I replaced the StrongARM with the old board and fired up the computer. Sure enough the boot up sequence came up with a message saying I was running a 610 processor. It is amazing how quickly you forget how slow the machine was before the upgrade – dragging windows seemed to take an age to redraw. However, all the software I tested ran and I couldn't find any incompatibility from the new operating system (3.7) alone.

I wanted to send some photographs to a friend the other day so I scanned them in and printed them out on my Epson Stylus Colour. It's the first time I 've used the new drivers included in RISC OS 3.7. While there is an improvement over the earlier drivers, the results are still not as good as I get from using the same image files on my Mac. The dot pattern has too much black in it and the dithered patterns are not nearly so pleasing as on the Mac.

In addition there appears to be a problem with gamma matching. What this means is that an image on the screen will not produce a print on paper of the same density and contrast. On the Mac there is a colour calibration addition to the operating system that ensures what is seen on the screen matches the printer. Sadly this sort of thing is missing on Acorn machines. Also most applications can't handle 300dpi sprites – they insist on blowing them up to 72dpi first.

However, before we re-name this column 'Grumbles through Acorn Wood' the Risc PC does come out on top for speed. Through its parallel connection and fast processor, I can get a sheet of A4 printed in less than five minutes. The Mac, through its serial lead, takes about three-quarters of an hour to produce the same page. What I would like is Mac quality with Acorn speed but then I always was an optimist. Does anyone know of any software that would give me that? Anyway onto this month's batch of problems.

Jenny Caughey contacted me from New Zealand over the Internet. It took several exchanges but in essence this is what transpired:

Can you help me as I am not getting any help from my local dealer who is only 20 minutes flying time away from me? I have a Risc PC700 with a PC card, 486, DOS 7 and an upgrade from Win3.11 to Win95 running. I can play .wav files on the PC but cannot record or use its volume control. I wish to be able to play the midi files on the PC side. One of the reasons is the Internet which I have on the PC side. I have no sound at all on the Internet and from reading I gather it is because the midi player does not work. Is there a program I can get to fix this for off-line and online? Any program that should give me sound does not. For example *Webtrack* whirls away but returns silence. *Raplayer 2* works but not 3.

I have a microphone which works on the Acorn side but is not very clear. The microphone records with a kind of background dull whistle. Is there anything I can do to eradicate this background noise? Also when recorded music is played back it is slightly slower. I am using an Oak Recorder 3 bought in the UK. Can the noise be eradicated?

The microphone so far will not function on the PC side. I have no software and I am not quite sure what I need. When I queried this here in New Zealand, I was told the microphone would not run on PC side. Is this correct?

I have been battling here in New Zealand for a year now with my dealer, who I decided has little knowledge and should not be selling these machines. Please, can you bring sound to my very quiet computer.

Faced with such a request what could I do but make a few phone calls? A very good program for playing midi files is *ReMidi* but that only works on the Acorn side. There is a product that'll allow these files to be played on the PC side and more. MIDI Synth from ESP loads up on the Acorn side but makes the PC side work – reviewed last issue. See its Web site at http://www.cybervillage.co.uk/acorn/esp/index.htm

Some other companies might be worth looking at on there as well. You will have to configure your MIDI mapper on the PC side correctly – this should allow you to hear anything that would normally be heard on a PC fitted with a sound card. There is a dealer in NZ for this product – Orams – MusicTech, Auckland.

Your sound digitiser is an Oak Recorder. However, the person who designed it is now no longer with Oak but with Solent Computing. I spoke to them and they told me that there was a problem with the Risc PC 700. Apparently internal changes in that model of computer can cause the problems you are having at some sampling rates. They recommended setting your sampling rate to 22.2 KHz to eliminate the noise. Also some computers don't give quite 5 volts at the expected point on the printer port – this gives a different type of noise. The cure for that is an upgrade to the hardware unit (the thing between the microphone and the printer port) If you return the old one they will only charge £12.95 UK. They can be contacted on: srfscp@aol.com

I did mention your problem with getting it to run on the PC side and they pointed me at Xemplar who had commissioned some software to do this. There is a module that installs on the Acorn side and another on the PC side which when combined give the PC basic sound blaster microphone input compatibility. Apparently this was made so that some schools could run some language soft-

ware. The way you get this software is to send £10 UK to the customer services department at Xemplar not the sales department.

Richard Grant is getting a little offspring earache:

My son is nagging me for joysticks to play games on our StrongARM Risc PC. There appears to be only one commercial product so I would, perhaps, like to make or adapt either an old PC set or some old analogue joysticks originally used on my Master. Have you done any projects along these lines? The idea of making one is attractive and would be an interesting challenge.

Yes no problems – it's all in back issues of *Acorn User*. In January 96 I showed how to read a 12-button Sega Joypad. Then in June 96 I described how to use the analogue PC style of joystick through the printer port. Finally in October 95 I showed how to connect switched joysticks to the printer port.

Now I don't know who sent this as the e-mail didn't contain a name but I'm sure that Compuserve member 100734.3627 will recognise himself:

Can you help me? I have started to get Disc Error 22, or 24 on my Acorn. Is it serious? Can I check my drive thoroughly to see if it's a big problem? I have an A3020 with a 120 Conner 2.5 inch hard drive.

This should set alarm bells ringing and you should immediately back up any unique files that are stored on the disc, but then you do that already don't you? Then you should check the disc with the verify option on the drive menu. Having got all the files safely stored away you can run something like Look Software disc recovery or reformat the drive.

Edd was having trouble downloading the printer port monitor from my Acorn pages on http://physics.mmu.ac.uk/Physics/Acorn/ but obviously he was not using an Acorn machine as his browser does not work on our computers:

I would like to get hold of a copy of your printer port monitor, but when I ask Netscape to give it to me, it displays it as text, rather than giving me a file.

Also I want to make a scrolling display of LEDs like you see in shops advertising things – any ideas? I have some, but limited, technical knowledge.

What you need to do is to tell Netscape to save the link in source format. You can do this in several ways. On my version of Netscape (on a Mac) I can hold down the mouse button on the link and up pops a menu with "save Link" as one of the options. Alternatively there might be a menu option of "save next link" somewhere.

As to the display, I have thought about this as a project but it is a bit expensive. You can get large 7 x 5 LED matrix displays but these need to be multiplexed one row at a time. Therefore you need a bit of memory and a multiplexer circuit on each display. If you do the whole thing with discreet LEDs and a printer port then you have a mammoth multiplexing task that would leave each LED on for much too short a time. In short I think it's a no-goer, but please prove me wrong. I think Maplin had a project of this type but it used PIC micro controllers to multiplex each section of LED and was built up in sections.

Peter Cookson from Hartshead High School, Tameside has a problem finding some old software:

We are trying to get a new copy of QGRAB a software package for the BBC B. It was written by Phil Blackburn and Alun Hinder and is Copyright AUCBE 87. We can not find it anywhere. Who is AUCBE? Do you have any ideas that can help our Science Department track down a copy?

We wish to use our old BBC Bs in science lessons to record data using sensors and display the results graphically. If you know of any other software for the BBC B please let us know.

While it should not be too difficult to write your own software I can understand your reluctance to do so. Unfortunately I am at a loss with this one, so does any reader remember this? In fact are Phil or Alun still out there?

Garan Jenkin has a portable A4. These can be a bit short on interface options but they do have a serial port. He wants to know:

I want to make a D.I.Y wind speed (sort of like a windmill) gauge but I don't know anything about it. Could I just have my dynamo connect to the serial port and have the arc time the period of the signal produced by the dynamo? Any help both with hardware and software would be greatly appreciated.

You need to see: *The Micro User* BB 27 (June 85) Anemometer, a wind speed indicator. It is available on-line from my Web site. This was a simple arrangement made with ping-pong balls and an optical switch. However, it was designed to plug into the User Port and as such had a TTL output. To make this suitable for the serial port, increase the resistor to 1K2 and feed the circuit with +/- 5 volts instead of the single 5 volt supply.

You can then feed the output into one of the handshaking lines of the serial port like the DCD or DSR line. This technique was described in the October 96 issue of *Acorn User*. The original program used machine code and the timer in the VIA. You can use BASIC on the A4 but will have to resort to a little trick to get the accuracy up. The best bet is to use the TIME variable to record the length of say 10 pulses. Then divide by 10 to get the time of one – in that way you will increase the accuracy.

Finally you need to multiply the speed by an efficiency factor to compensate for the friction in the moving parts. My original had an efficiency of 0.65 – I calibrated that with a hot-wire gauge but there are other methods of calibration. One of the simplest is to compare the speeds you get with the ones given with your local weather forecasts. After a few weeks you should be able to work out how efficient your system is.

Tim is interested in embroidery, he writes:

Do you know where I can get a single-head machine to drive off a Risc PC700 to produce logos on polo shirts?

There was a device out several years ago called a POME – it was interfaced to the Mac and I made enquiries at the time about converting it to an Arc. I was told that someone was already doing that. Later it was on display at a show but I can't remember who produced it. It converted *Paint* files into embroidery. It only had a small ring of about 4 inch diameter but that should do you. I seem to remember it was priced at around £600. Anyone know if it is still available?

David Horman is part of Campus Television at Bath University and wants to use an Acorn computer to help with graphics. He writes:

I'd like to use my Acorn to provide graphics for a TV picture as the programs I write could be a more flexible than using the *Scala* graphics program on our Amiga.

I have tried using a box called PCTV which is supposed to convert a PC's monitor output in to a SCART or BNC output but it didn't even work on the PC (it is seven years old). Recently I found a diagram in an FAQ showing how to wire a Risc PC's monitor output to a SCART socket – the address is: http://www.interpages.co.uk/faq/acorn/Section2.html

What I need to know is if this will allow to display the RPCs screen on a normal SCART TV, and more importantly, if I can then use a converter (which I already have) to convert this SCART signal into a normal RF signal which I can use on a mixing desk? Also, what modes can I expect to work with this? I'd like to use 800x600x16M, but 640x480x32k would be okay (and 1024x768x32k would be a bonus!). If this won't work with a normal TV/mixing desk, are there any commercial modulators that will work at this resolution?

I checked out the Web address and found a connection diagram. Unfortunately this won't work because of one thing – the Risc PC can't produce a broadcast compatible TV signal. The reason you probably had no luck with your old PC is that it probably produced a CGA signal and not the VGA one that the board was designed to work with. If you program the video controller on the RISC to produce VGA output you can use this board. Use the Mode Make application to do this. If you don't want to do this then Pineapple Software has some hardware that will help – see the back inside cover of most *Acorn Users*.

There is no way you can get that sort of resolution on a TV screen, that's why we have to buy special monitors for our computers. At best you can get 512 x 512 but in practice it's only 312 x 256 that you can actually exploit to its full potential. Also you have to watch out for the colours – if you change them too often in the X direction, the PAL encoding system can't keep up and you get colour bleed or no colour at all. AU

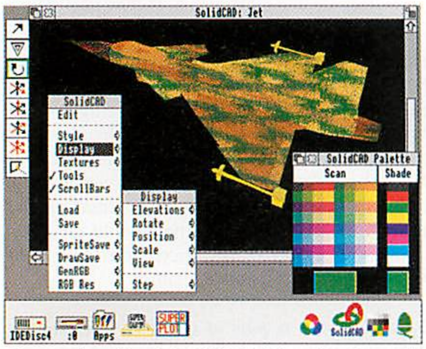


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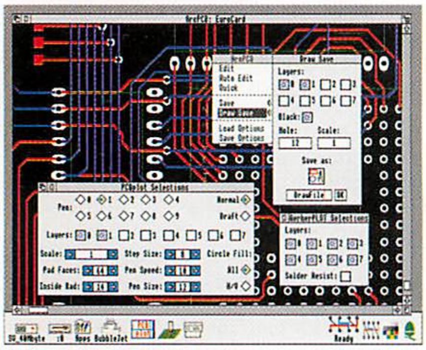
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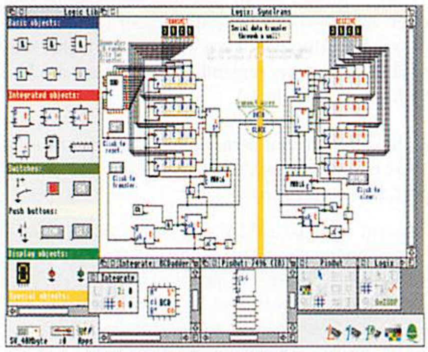
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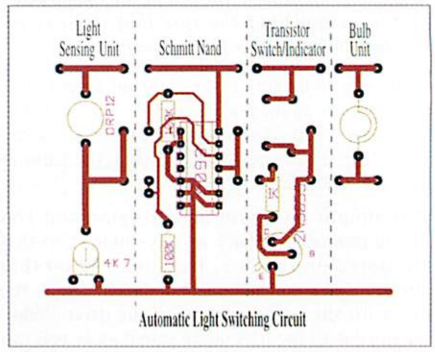
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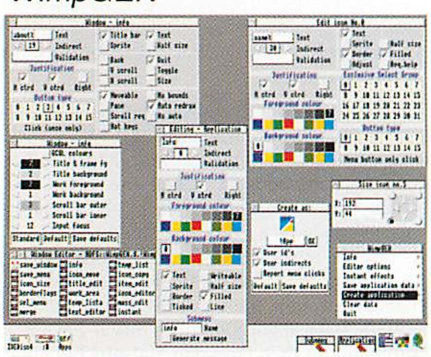
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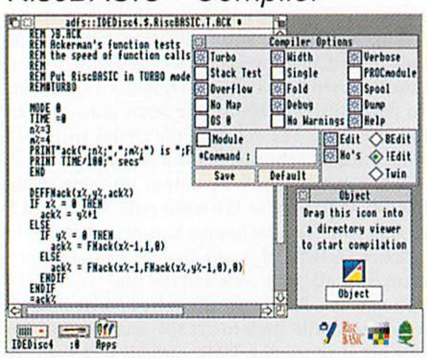
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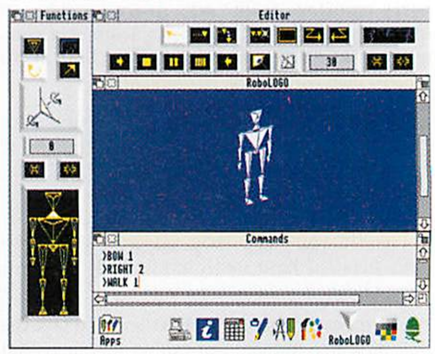
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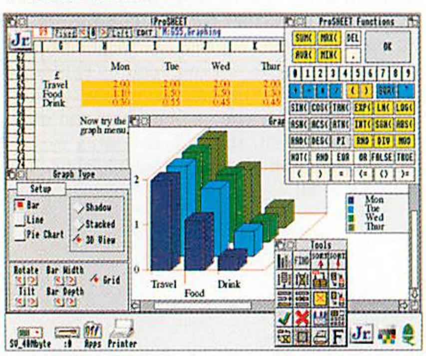
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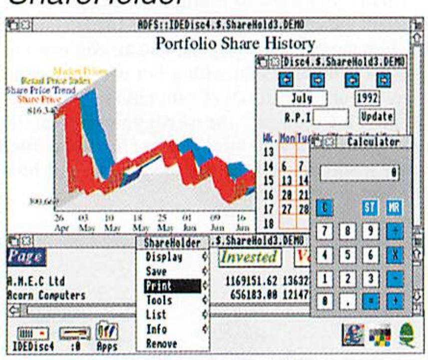
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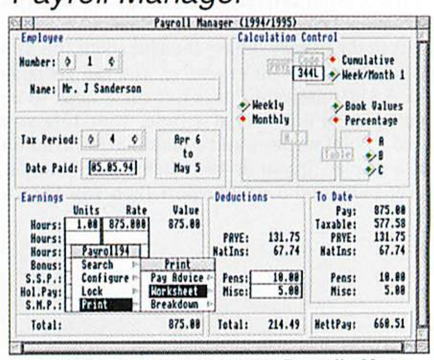
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10th Anniversary Offers

To celebrate 10 years of trading, the prices quoted are substantially discounted up to 50% off RRP. Offer valid for this issue.

Dave Acton and **Dave Lawrence** present the results of the Cloud Challenge

star info

Pair of smalls

Author: Justin Fletcher



IN THESE days of 32Mb SIMMs and 2Gb hard discs it is easy to forget that sometimes small is just as interesting. By way of example then, here are two minuscule machine code masterpieces from our old friend **Justin Fletcher**. *BandB* stands for Bat and Ball and is a game in which you take the part of a ball and must bounce around the screen hitting the bat. No, hang on, that can't be right. Oh, I'm sure you'll be able to work out what to do.

Ripples is a subtle graphical excursion which plots wave-like ripples on the desktop. It is only single-tasking, so don't expect to be able to carry on with your work while it's running. The effect is quite subtle, so it is best to run the prog in a low resolution mode with a plain (grey) backdrop.

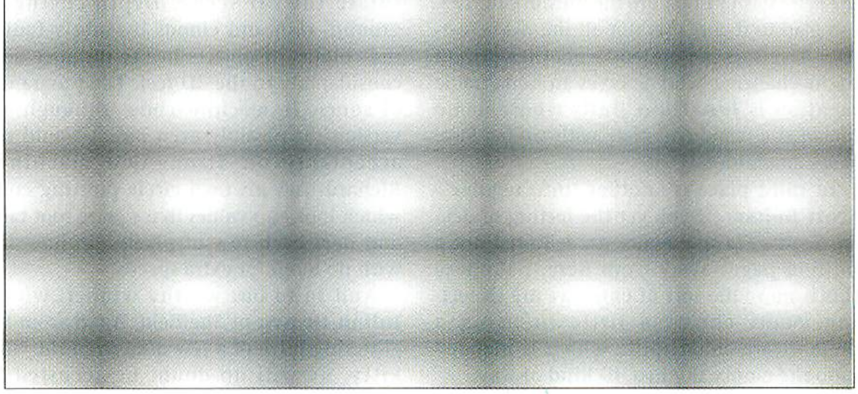
If you were wondering why these seemingly trivial programs qualify as masterpieces, try seeing how long they are – both under 256 bytes!

Circles circling

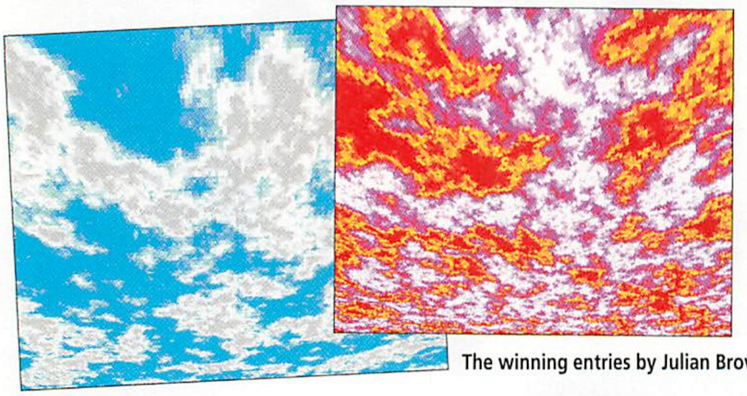
Author: Mark Adcock

HERE ARE TWO very late arrivals in our circle competition from **Mark Adcock**. Cunningly called *Circles1* and *Circles2*. *Circles1* plots some slowly rotating circles on top of some slowly rotating circles on top of some non-rotating circles. By using EOR plotting, some very interesting interference patterns are generated. The progression from mark 1 to mark 2 can clearly be seen by the addition of a textured background. This texture is, of course, circular.

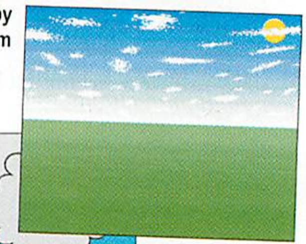
As we've said before, although our circle competition is officially over, please don't take this to mean that circles are no longer welcome!



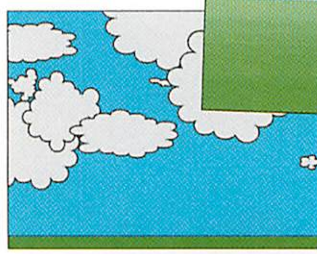
Clouded vision



The winning entries by Julian Brown



Third place by Scott Bonham



Fifth prize goes to Mark Adcock

WE COULDN'T have been more pleased about the entries to our *Cloud Challenge* if we'd been very pleased indeed about something exceedingly pleasing. Given the very loose brief of 'write a (good) program that draws clouds' we received a wide range of styles of cloudy demos. Thank you to all who entered. (And get ready for the next challenge below!)

We have selected the five best for publication this month, although we hope to carry one very good multi-tasking desktop cloudmaker in a future month where we can give it the space it deserves.

Fifth place goes to a little Basic demo from none other than **Mark Adcock** (whose belated circle challenge entry is featured this very month too!) Mark went for the cartoon style, and his simple program just uses Basic's CIRCLE FILL and ELLIPSE FILL commands to produce a random skyful of weather-map cumulus. After a short pause, another warm front appears.

Fourth place goes to **Rob Jeffs** whose *Circle Challenge* programs were also featured in the February issue. Like a couple of other clouders, Rob has done some lateral thinking and come up with a pair of Basic demos – *CloudIX* and *GroundZero*. You will have to think a little about what the former does, but there should be no prizes for guessing what sort of cloud *GroundZero* produces. (The author mentions that the demo is a tribute to *Dr Strangelove*.) Oh, what a cynical readership we have in these post cold-war days. A particularly grim feature of the program is the eerie flash just before the mushroom rises. I'm glad to report that not all the AU readership have such an outlook – another entrant to the challenge who deserves an honourable mention is **Jonathan Balls** whose demo included a cloud complete with smiley face. What an antidote!

In third place is another *info regular – **Scott Boham**. If you get the feeling of *déjà vu*, Scott's *Plasma* demos are featured not a million pages away from here. I suppose this is more the sort of entry we are expecting. Scott cheats a little in using a prefabricate cloud sprite which is mapped onto the empty sky in a 3D kind of way.



Second place – Richard Wilson

The final effect is a little bizarre really but rather pleasing to watch. The perspective is a quite violent in the very near foreground, giving the impression that we are looking through a fish-eye lens. Because of the natural errors that occur in mapping sprites onto the screen in unusual ways, individual pixels come and go from frame-to-frame, and this adds an interesting shimmering effect to the whole ensemble.

Second place and hearty congratulations go to **Richard Wilson** of East Markham in Notts. He has combined a range of concepts – 3D, cartoon and weather-map to provide a sort of, well, animated 3D weather cartoon, I suppose. His clouds are unusual in two respects. Firstly, they actually do something – rain in this case. And secondly, they are just made up of grey circles which expand and contract as only grey circles can. Richard's ingenious use of the humble circle bears testament to his great success in our previous challenge.

Oh yes, in case you thought that's all there is to it, press Select and Adjust to rotate the 3D scene. Depth-cueing of ground, rain and clouds by subtly fading the colours of objects in the distance adds considerably to the 3D feel. The program is of course in machine-code, although a C version (or possibly even Basic) would run acceptably on StrongARM machines. Richard uses his own circle plotting code, which looks up values in a square root table and does each row of pixels 'in-line' (i.e. with no loop) for extra speed.

And so to our worthy winner, who is **Julian Brown** of Sheffield. Apart from the glittering prize of a few quid from the *info kitty, he will no doubt be accosted by screaming fans as he strolls through the streets of Broomhill. But that, as they say, is the price of fame.

Run his demo, which is written in C and assembly language, and you will be presented with a short menu. Choose your flavour of cloudage and you will be transported beneath it. But that's not all. Move the mouse left and right to rotate the sky (or rather, rotate you). Select and Adjust move you forwards and backwards.

Julian has obviously been playing *Doom* or suchlike – the *Alien Toxic Chemical Haze* is very reminiscent of that genre of game. I think the dark blue is perhaps the most natural looking in some ways but then I do live just a few miles up the coast from the Billingham chemical works.

How it works...

We'll let the author explains how his creation functions. The C and assembler source code can be found on the cover disc too.

"The program is split into three sections. The first creates a tileable plasma effect using a simple method of interpolation. The second post-processes the plasma to one of three colour palettes.

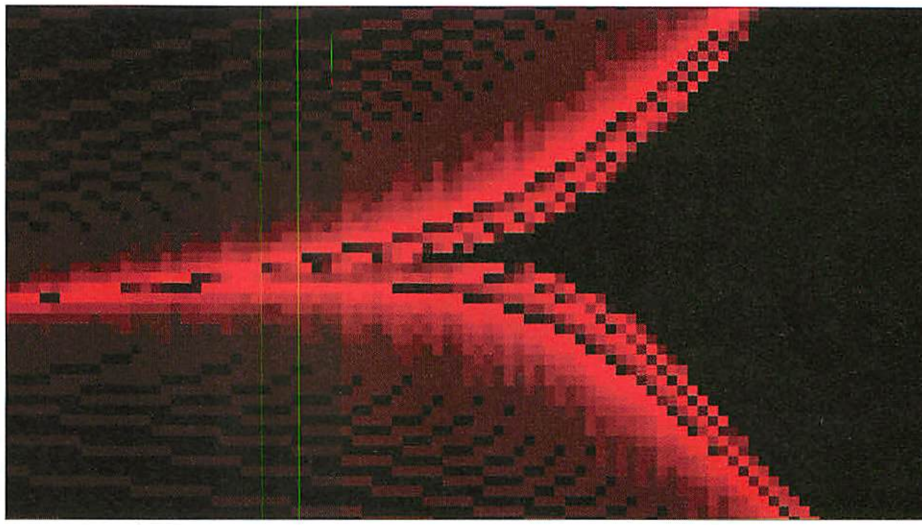
"The third section is the most interesting one. Basically, it rotates and maps the 256x256 tiled texture map onto an XZ plane. To calculate each point individually would take far too long, so instead vectors are calculated for each horizontal row of pixels (which are after all linear on the source texture). Although byte-reads are necessary, they are grouped together into fours and written to the screen simultaneously. The resulting code refreshes the screen pretty fast even with my Arm250, so it should be pretty cool on a faster machine" (*yes – it goes like the clappers on my RiscPC, so StrongARMers will have to hold onto their hats – DA*).

Julian warns that if you want to change the size of the texture map you may run into 'a few difficulties'. As the grid is 256 by 256, we can well believe that switching to 257 by 257 might not work as expected.

Thanks again to Julian and all the other entrants.

A brace of bifurcators

Author: Peter Naulls



BIFUR AND *Bifur2* have come all the way from **Peter Naulls** in Hamilton, New Zealand to be with us tonight – please give them a warm welcome.

In the words of Peter, 'The first program is a bog standard bifurcation – you know $x' = k\ x\ (1 - x)$ and is a simple demonstration of chaos theory. Not very exciting really'. Well, maybe not, but still quite nice.

Peter goes on to say, 'With a few modifications we get the second program – quite pretty really I think.' One of these modifications obviously makes the result redder, the other varies the intensity of the points plotted. All very chaotic you if me ask.

Tunnel time

AND SO TO the next challenge. As before, we will keep the brief as 'open' as possible so your imaginations can run riot. As you might guess from the deeply cryptic heading, your task this month is to write a program to draw a tunnel. To get you started, we have created our own and, ever-imaginatively, called it *Tunnel*.

In fact, there are four versions of our example:

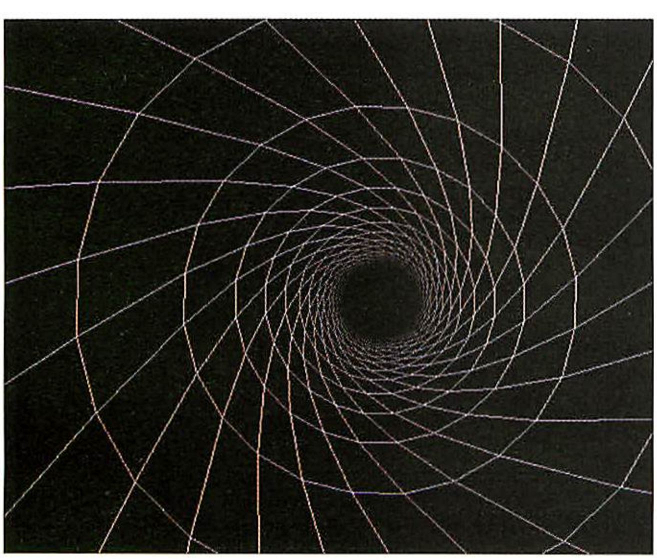
- *Tunnel* was written on a StrongARM machine and probably needs one to run at a respectable frame rate
- *Tunnel12* runs in mode 12 and with a reduced number of sides to the polygons that form the tunnel walls
- *Tunnelq* is a cut-down, quicker version of Tunnel. It still runs in mode 28, but the tunnel spins faster, and we move through it at double the speed to compensate for a lower frame rate
- *Tunnelglow* uses another palette to provide an eerie glow just up ahead. Consecutive segments are also joined with straight connections for a different effect.

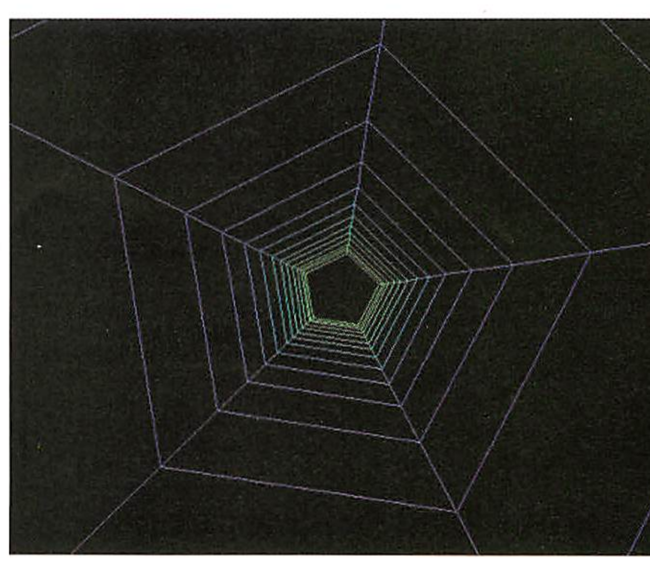
Well, that's our selection, so it's over to you...

Of course, we would be delighted to see some all-singing, all-dancing Doctor Who-like plasmatic tunnels (just how *did* they do that in 1974?) but simple Basic demos (like ours) are just as welcome as those in code, or C, or whatever you like really.

The deadline for entries is the 23rd May 1997. As before, because this is a challenge rather than a competition, we will wait and see what range of entries come in before deciding how many to include. The first will appear in the August issue, and if we have another good selection as in previous challenges, we may carry some over to future months.

Send your entry to *info at the usual address and please mark your envelope and disc with *Tunnel Challenge*. Please include the standard text file with your name, address, e-mail address etc, as well as details of your entry. You can submit as many programs or versions as you like, and if you have any other non-tunnel offerings you'd like to see in *info, send them in too. You may e-mail your entry – see *quit for details. The judges' decision is final – we'll pick the prettiest, fastest, strangest and tickles-our-fanciest programs as always. Happy tunnelling.






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Hodge trimmer

Author: Pontus Lurcock

WE'VE received two programs from Pontus Lurcock. The more frivolous offering is called *Hodge* and should be familiar to our long standing readers. The Hodgepodge Machine is a family of cellular automata invented by Gerhardt and Schuster at the university of Bielefeld. It produces swirly patterns. *!Hodge* is a multitasking implementation of this system, letting you play around with the settings to produce varied results...

In the Hodgepodge machine, a cell with state 0 is 'healthy', a cell with state n (i.e. maximum state) is 'ill', and anything inbetween is 'infected'. The method used to calculate the cell's state in the next generation depends on which of these three categories it is in:



For a healthy cell:

new state = INT(A/k1) + INT(B/k2)

For an infected cell:

new state = INT(S/A) + g

For an ill cell:

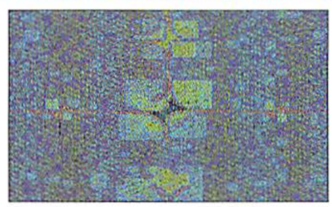
new state = 0 (cell miraculously becomes healthy)

A is the number of infected neighbouring cells (including the cell itself), B is the number of ill neighbouring cells, S is the sum of the states of the cell and its neighbours, k1, k2 and g are constants.

Pontus' program allows all the above parameters to be adjusted along with what the algorithm interprets as 'neighbours'. This defaults to just the cells above, below, left and right, but any combination of the eight surrounding cells can be set. It is also possible to map the automata onto a doughnut but switching 'wrap' on. This is useful for producing repeating tiles. More information can be found in the application's help file.

Obl-iteration

Author: Edward Smale



THIS SEEMS to be the month of the cellular automata, perhaps we could apply to government to declare May as the *National Look Left, Right, Up and Down Month.* **Edward Smale**'s offering on the iteration front is called *Iter*. He has supplied two versions. The first, *Iter82* produces a single pattern using an averaging formula with a few variations. *Iter104* is more fun as it allows its two parameters to be entered at the start and more interestingly varied during the run. Again, an averaging formula is used, but strange results can be produced.

The best results are obtained with factors that almost balance each other out – a high multiplication factor with a low 'bic' value, or vice-versa. Often, different results can be had even when the factors are the same, if the screen size is different.

According to Edward, some good values are:

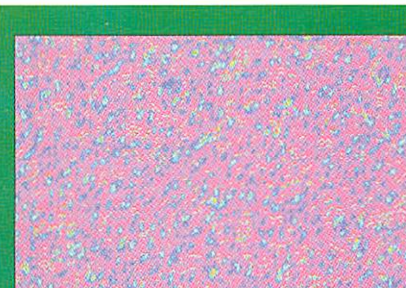
- Full Screen, Multiplication 101, Bic 1
- Quarter Screen, Multiplication 102, Bic 2. This makes an effect rather like smoke from an explosion
- Full Screen, Multiplication 102, Bic 7. This occasionally looks like travelling into a tunnel – especially if you have a fast computer
- Quarter Screen, Multiplication 104, Bic 5 or 6. This gives you an effect like a liquid or a gel. It occasionally looks really squelchy!
- Eighth Screen, Multiplication 102, Bic 2. This also creates some liquid like effects, but much faster and less viscous
- Also try: Full, 120, 15, Half, 110, 14/15, Quarter, 110, 14/15, Quarter, 105, 4, Quarter, 108, 13

Plasma Attack

Author: Scott Boham

AS WELL AS cloud-making, **Scott Boham** has been playing about with plasma (kids – don't try this at home). Four versions of his demo feature on the cover disc.

As with all plasma type demos, a simple rule is used to work out the colour of a pixel from the state of its neighbours. (This is *National Look Left, Right, Up and Down month* after all...) Scott provides monochrome and colour flavours using full and cut down screens. Run the versions appropriate to your machine's speed. The black and white version looks somewhat like a time-lapse film of the progression of a particularly unpleasant skin disease. (I suppose we could use dermatological complaints as a theme for a future challenge. Then again...)



Smoked Macro

Author: Paul Clifford

IN OUR December column, we published a program by **Paul Clifford** called *Macros*. Since then, Paul has discovered that his code does not work on a StrongARM as it loads a datafile containing executable code. To remedy this situation he has sent us a patch (in good old Acorn Patch format) which makes a minor modification to the module. Simply locate and run Acorn's *Patch* application, run *MacrosSA*, drag the original *!Macros* application to the patch icon, select *Apply* and then *Patch selected*.

Paul has also sent us a couple of new macros which you may find useful:

MoveWindow moves the window under the pointer to the top or bottom depending on the argument supplied, and *MoveMouse* allows the mouse pointer to be moved about precisely. For example:

```
*MacroCode MacroCode:MoveWindow
*Macro LeftAlt | RightAlt Select :: MoveWindow Top
*Macro LeftAlt | RightAlt Adjust :: MoveWindow Bottom
```

This would set up Alt and Select to move the window under the pointer to the top, and Alt and Adjust to move it to the bottom.

```
*MacroCode MacroCode:MoveMouse
*Set MouseStepSize 2
*Macro Select | Adjust K8 :: MoveMouse Up <MouseStepSize>
*Macro Select | Adjust K2 :: MoveMouse Down <MouseStepSize>
*Macro Select | Adjust K4 :: MoveMouse Left <MouseStepSize>
*Macro Select | Adjust K6 :: MoveMouse Right <MouseStepSize>
```

This would set up the arrows on the keypad to move the pointer by *'MouseStepSize'* amount when select is held down. You can change the value of *MouseStepSize* at any time to alter the increments used.

Just copy the contents of this archive over the !Macros application and use the above commands (or something similar). As with the other MacroCode files, the source is supplied in *MacroCode.s*

Out in the Styx

Author: Richard Seago

STYX IS a desktop trash application with a few subtle differences. Firstly it was written by **Richard Seago;** secondly it runs under *Director* (The desktop enhancer by Nick Craig-Wood as featured in the October 1995 issue of *Acorn User*). The clever bit is that it intercepts a click on delete on the menu from a filer menu and changes that delete into a move to the deletion directory. It also sets up **Delete* and **Wipe* aliases to do the same thing.

The program is, in fact, just a director icon and some director menus. So you must have the Director module loaded – if it isn't Styx won't run. It loads a module called *Charon* which ferries those files you delete to a directory called Hades. It also sets up an alias. You can change whether these are on or off by editing the Options file inside Styx.

Styx will remove anything considered old from Hades on its own – otherwise it's up to you to purge it as and when necessary. Dead files are stored in a dated directory to help you work out their age. To retrieve anything, simply open the necessary directory and drag it out. To change what Styx thinks of as old (in days), simply edit the Options file.

As Charon always moves things it can be slower deleting things from floppies or archives – if necessary turn Charon off from the menu. If you have *LongFilenames* then the *KillOld* application (if run) must have the relevant REMs removed from some statements (the first three you come to).

Deep sea divert

Author: Pontus Lurcock

THE second program from Pontus is the more serious *Divert* written to combat the annoying problem of programs which are capable of loading a certain filetype, but refuse to respond to a double-click (i.e. DataOpen message) on a file of that type. Divert can be set up so a double-click loads GIFs into *ChangeFSI*, STModules into *APTracker*, RTFs into *Fireworkz*, etc.

Divert can also do a similar thing for names. This is useful for off-line readers – you can set up Divert to load a double-clicked scratchpad into your OLR, just because it's called *scratchpad*.

Divert is a module task controlled by means of * commands. The commands it provides are:

```
Divert_AddType <Filetype>
<Task name>
```

This adds a filetype to Divert's double-click checklist. When a file of the specified type is double-clicked (or Filer_Run) Divert will check for the presence of the specified task. The task name is the same as that given in the task manager window, and is checked case sensitively. If the task name contains spaces it should be enclosed in double quotes. The Filetype can be a three-figure hex number or a textual identifier such as GIF.

```
Divert_ClearTypes
```

Clears all the filetypes that Divert currently knows.

```
Divert_AddName <Filename>
<Task name>
```

This works the same way is Divert_AddType, except that you specify a name to check against instead of a filetype.

Names take precedence over types, so if for example you do '*Divert_AddType GIF ChangeFSI' and '*Divert_AddName Village Zap' and subsequently double-click a GIF called Village, it will load into *Zap*.

```
Divert_ClearNames
```

Clears all the filenames that Divert knows.

```
Divert_Status
```

Displays a list of all the filetypes and names that Divert is currently set up to respond to, along with the tasks to send them to.

Of course Divert won't be able to help if the application isn't loaded; however this can usually be achieved by appropriate setting of Alias$@RunType_Whatever – assuming that the program checks its environment string, which almost all do.

Divert must be loaded before any application which would pick up its filetypes, e.g. if you have Divert set up to send scratchpads to your OLR, and you have Zap loaded before Divert, Zap gets the message first and Divert never sees it...

How it works

Divert picks up the Message_DataOpen which is broadcast when a file is Filer_Run, and checks the type and name against the ones it knows. If it finds a match, it starts checking through icons on the iconbar, looking for one owned by the task corresponding to the name/type of the file.

If Divert finds the right task, it responds to the DataOpen, then sends a DataLoad to the task (this is basically the same as the original DataOpen with the action number changed and the task's iconbar icon put in). As far as the task is concerned, someone dragged a file to its iconbar icon. And the Filer got a DataLoadAck from Divert so it doesn't generate a 'no runtype' error.

Compatibility table

Program	RISC OS 2	RISC OS 3.1	RISC OS 3.5+
Tunnel	No	Yes	Yes
Tunnel12	No	Yes	Yes
Tunnelglow	No	Yes	Yes
Tunnelq	No	Yes	Yes
Iter104	No	Yes	Yes
Iter82	Yes	Yes	Yes
Styx*	No	Yes	Yes
Bifur	Yes	Yes	Yes
Bifur2	Yes	Yes	Yes
!Hodge	No	Yes	Yes
Divert	Yes	Yes	Yes
BandB	Yes	Yes	Yes
Ripples	Yes	Yes	Yes
Rain	No	Yes	Yes
Cloud IX	Yes	Yes	Yes
Ground Zero	Yes	Yes	Yes
Brown	No	Yes	Yes
!3D_Clouds	No	Yes	Yes
C4	Yes	Yes	Yes
PlasmaBW	No	Yes	Yes
PlasmaCol	No	Yes	Yes
Plasma2BW	No	Yes	Yes
Plasma2Col	No	Yes	Yes
Circles1	Yes	Yes	Yes
Circles2	No	Yes	Yes

* Needs !Director

*QUIT

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austarinfo@idg.co.uk

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Measuring a moving target

Mike Cook explores a completely new area – alternating current

As regular readers will know, sometimes I cover complete projects and other times techniques. There was a particular project I wanted to do this month but unfortunately it uses a technique that I have never used before. It came as a surprise to me that since I started writing these articles back in 1983 I had not covered the measurements of AC signals, so let's make amends for that this month.

AC stands for *alternating current*, that is current that first flows one way and then the other. In practice when we refer to an AC signal we normally mean an alternating voltage. In fact many times it does not have to change its polarity – the main point is that the voltage changes with time.

The most familiar form of AC signal is that sent to every home connected to the mains electricity supply. This voltage changes with a sinusoidal wave shape with a frequency of 50Hz – that is there are 50 cycles of the wave every second. Now most people know that the mains voltage in the UK is 240 volts but what does that mean? If the voltage changes with time how can we give it a value?

Have a look at Figure I. This shows a sine wave with various voltages we can measure. The simplest measure is the maximum excursion from the positive peak to the negative peak. With a blinding insight into the nature of the universe this is known as the peak-to-peak voltage or PTP. An alternative measure is the maximum voltage reached. This is known as the peak voltage and it doesn't take a genius to work out that it is exactly half the peak-to-peak voltage.

However, some of the time we are interested in how much power a wave contains and in that case we have to do something a little more fancy. We need to split the wave into tiny slices of time, or samples, and compute the average value of the voltage. Unfortunately this is always zero as the wave spends as much time being positive as it does being negative.

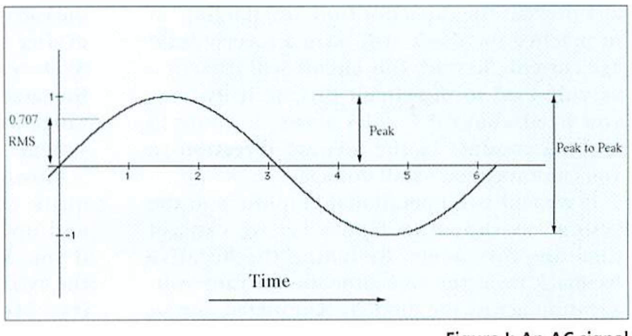


Figure I: An AC signal

So we have to resort to a mathematical trick. Each sample is squared – multiplied by itself – which neatly removes the negative sign (if there is one) but leaves us with a number that is too big. So to compensate, when we have added them all up and taken the average – mean – we then take the square root so what we have is the *root of the mean of the squares* or RMS value.

Now the relationship between the peak voltage and the RMS voltage will depend upon the shape of the wave. A wave that consists of narrow spikes is not going to carry the same power as a square wave, even if the peak voltage is the same. Fortunately most of the time we are dealing with sine waves, so all we need to do is to work out this relationship once and remember it. I won't go through the maths, but it works out, for a sine wave, that the RMS value is equal to the square root of 2 times the peak value or,

```
VRMS = Vp * 0.707
```

So, when we say the mains voltage is 240 volts, we really mean 240 volts RMS and the peak voltage coming out of that socket on the wall is nearly 340 volts. Even more alarming the peak-to-peak voltage is 680 volts.

Now, we don't want to measure voltages of that size but only of a volt or so. However, a computer can only measure direct current or DC voltages so in order to make a measurement of an AC signal we have to convert it into DC. The simplest way to do this is with a peak detector – a simple one is shown in Figure II. With this circuit the capacitor is charged up as the input voltage increases, but when the voltage starts to drop the diode

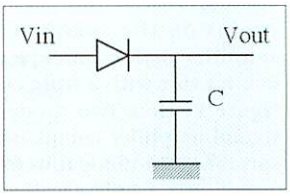


Figure II: A simple diode peak detector

Measuring a moving target

prevents the capacitor from discharging. So the voltage on the capacitor is always the maximum or peak voltage – Figure III shows this.

However, this circuit suffers from some problems. For a start the diode will not actually prevent the capacitor from discharging, as in practice the diode will have a reverse leakage current. Second, this circuit will present a varying load to the circuit driving it. Finally, you need about 0.7 volts across a diode to make it conduct in the forward direction so you can't measure small voltages.

If we add two operational amplifiers to the system, as shown in Figure IV, we can get some improvements. By taking the negative feedback from the capacitor the forward voltage drop across the diode is eliminated and so we can measure really small signals. The second amplifier buffers the signal so that our measuring circuit doesn't discharge the capacitor and produce voltage droop.

Unfortunately this circuit places unrealistic strains on the component tolerances and amplifier performance, but we can compensate for this with a little cunning as shown in Figure V. Here two diodes are used and the second amplifier compensates for the leakage current of the diode thus preventing droop.

Now it's all very well measuring the peak voltage but we need some way of resetting the circuit so we can take our next measurement. This is normally done in two ways. First of all you could put a resistor across the diode so that the voltage decays with time. You can choose the value of this resistor so that it is long compared with the time period of the signals to be measured. The second method, and much more practical when a computer is involved, is to discharge the capacitor using transistor.

Let's look at a practical circuit – shown in Figure VI. This consists of a variable gain amplifier followed by a peak detector and finally a protection buffer. It is designed to connect up to the I²C interface that I have used so many times and fully described in December 95 *Acorn User*.

For simplicity, all the different supplies' connections have been shown separately but they should be connected together. The analogue and digital grounds should be connected together at one point only and there should be 0.1uF capacitors used as supply decoupling. The AD526 provides a programmable gain of 1, 2, 4, 8 or 16. By using this we can increase the sensitivity of our measurements in giving the 8-bit A/D converter the same dynamic range as a 12-bit system.

However, it is quite expensive and optional, so if you don't need the extra sensitivity, feed the signal directly into the first operational amplifier. The protection buffer is important to prevent any voltage outside 0 to 5 volts being applied to the A/D converter – this would destroy it. Voltages outside these ranges are clamped to the supply rails but in normal use this circuit doesn't come into play.

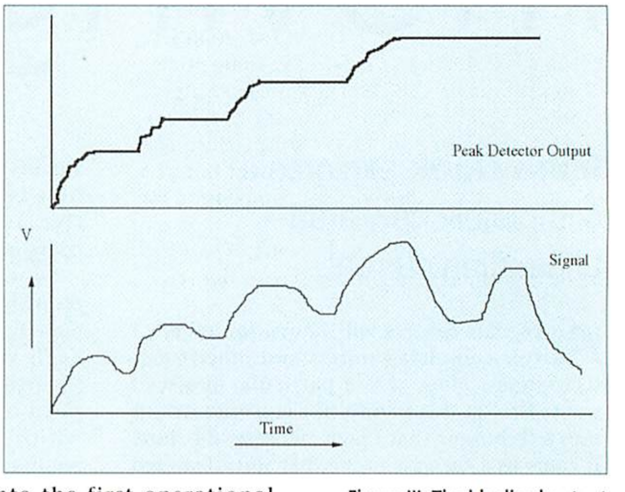


Figure III: The idealised output of a peak detector

Note that the circuit needs a split supply – one that has a positive and a negative output as well as a zero volts or earth. The value for the supply is not marked on the diagram as this depends on the type of operational amplifier used. Most amplifiers will not be able to drive their output close to the supply rails so these have to be higher than the 5 volts needed for a full-scale A/D reading.

Using the TL064 I needed to use at least +/- 7.5 volts. Actually this type of amplifier is really not good enough due to the input offset voltages. This is a small fixed voltage that, in the absence of any input signal, appears on the input and hence is amplified and appears

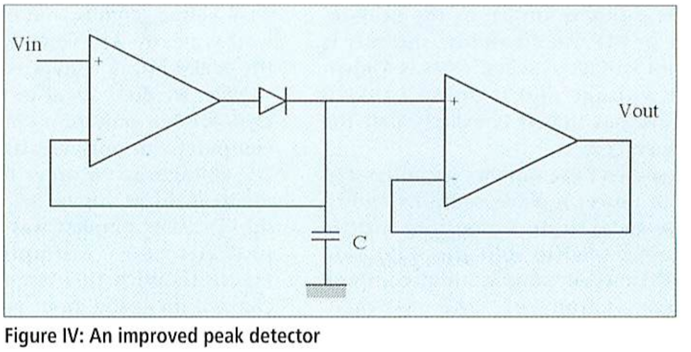


Figure IV: An improved peak detector

on the output. For best results the two amplifiers making up the peak detector should be OPA111 or AD549 but these tend to be pricey. If you can, adjust the offset voltages using an offset null circuit – unfortunately this is not an option with the TL064 amplifier. The AD526 has an offset null adjustment but you should not use this to try and compensate for the later amplifiers.

Assuming you have an offset null adjustment this should be adjusted for a zero volts reading when the transistor is turned on. Then taking repetitive readings adjust the offset of the first amplifier and then the AD526. If you have no offset adjustments, measure the DC offset with the transistor turned on and then adjust the AD526 to give you this same value while taking repetitive readings.

All this begs the question: How to read the system? You can use the I^{2}C port monitor to test things out initially – make bit 7 of the digital output a logic one and then change it to a zero while monitoring channel 0 on the meter. If you notice the analogue input value slowly creeping up, this will be due to input current leakage of the amplifier. It shouldn't cause too much trouble providing you take the reading just after releasing the capacitor. There are two simple programs on the cover disc that show how to do this. One is for the circuit with the programmable gain amplifier and the other is without it.

If you are using the amplifier you first take a reading with the gain being set to 1. If the reading is over 128 then that represents the most accurate you can get it. If not, the gain is increased in steps until the reading is over 128 or you reach the maximum gain.

Finally the amount of gain switched in determines what number you need to multiply the reading by to give a uniform value in the range 0 to 4080 – that is 256 x 16. I have left a provision for compensating for any DC offset by subtracting it

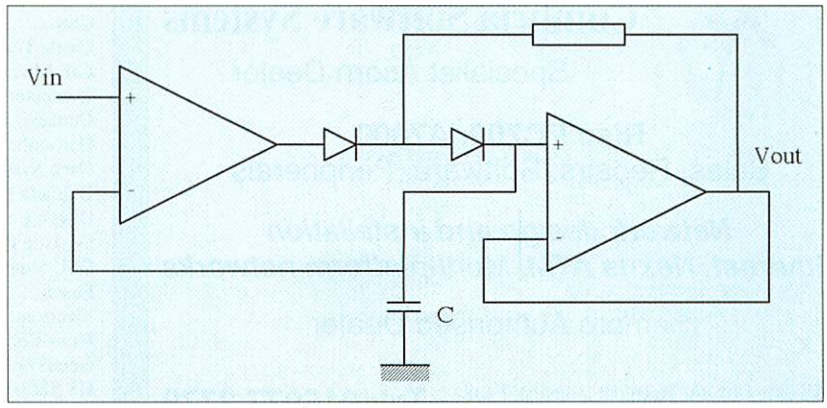


Figure V: A cunning peak voltage detector

from the readings before applying the scaling multiplication.

So we are now armed with the technique for measuring the peak value of AC signals. It is possible to use further analogue circuitry to compute the RMS value of a signal, but I will leave that for another time. Being able to read the peak signal is sufficient to allow me to do the project I wanted – measuring the frequency response of an audio circuit. And why I would want to do that is another story – so look in next month and find out. AU

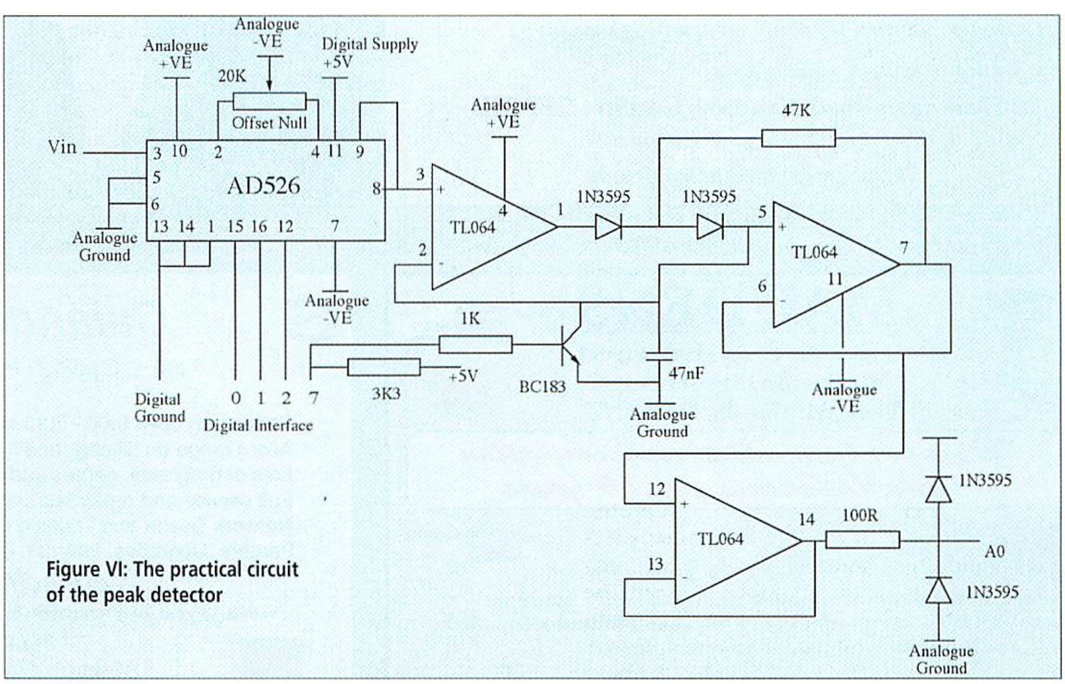


Figure VI: The practical circuit of the peak detector

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JACK KREINDLER

C for yourself

Steve Mumford introduces the basics of sprite handling

Until now, we've been dealing with WIMP applications that restrict their graphical interfaces to buttons, static sprites and writable icons. This has allowed us to sidestep the whole tedious process of redrawing the screen in one neat movement but it does limit the problems that can be tackled. In the next few articles I'll be moving on to more adventurous terrain and describing how to incorporate custom-written plotting routines that allow programmers to break away from the WIMP's standard restrictions. In this column I'll cover the basics of sprite plotting using the standard system call, *OS_SpriteOp*.

To plot sprites to the screen, the computer must have them stored in memory beforehand. There are two forms of storage. The sprites can be loaded into the main system sprite pool where they can be accessed using the standard star commands provided by the *SpriteUtils* module, but this leaves them at the mercy of other applications. A more preferable method is to create a 'user' sprite area, storing the sprites within the application's memory and safeguarding them from the hideously dangerous **SNew* command.

Setting up a user sprite area is fairly simple and it involves putting aside a block of memory, poking a couple of values into the start of the area and initialising it with *OS_SpriteOp*:

```
#define SPRITE_AREA_SIZE 10240
unsigned char
sprite_area[SPRITE_AREA_SIZE];
_kernel_swi_regs regs_in, regs_out;
au_wordtobyte(SPRITE_AREA_SIZE,
sprite_area, 0);
au_wordtobyte(16, sprite_area, 8);
regs_in.r[0] = 256+9; /* Initialise
user sprite area */
regs_in.r[1] = (int) sprite_area;
_kernel_swi(OS_SpriteOp, &regs_in,
&regs_out);
```

The code fragment above creates a user sprite area around 10K in length. After the area of memory has been set aside, its total size is written into the first word of the block, starting at an offset of zero. The second **au_wordtobyte()** function writes a value of 16 into the word beginning eight bytes into the block – this value may look as if it's chosen at random but it simply indicates the offset from the start of the area to the first sprite definition in the block; it's possible to have an extension area which would change this value.

Before *OS_SpriteOp* is called, we have to select which base function to use (in this case, 9 for 'initialise sprite area') and then modify that according to whether we're using the system sprite area or one of our own. Adding 256 to the value in register 0 tells the system that a user sprite area is being referenced and a pointer to this area is held in register 1. Finally, *OS_SpriteOp* is called and the user sprite area is initialised.

Loading sprites into a prepared sprite area is trivial and saving them again is just as easy – call *OS_SpriteOp* with **r0** set to 10 for loading and 12 for saving:

```
char filename[] =
"<SpriteOp$Dir>.Sprites";
char text_buffer[255];
regs_in.r[0] = 256+10; /* Load a
sprite file */
regs_in.r[1] = (int) sprite_area;
regs_in.r[2] = (int) filename;
_kernel_swi(OS_SpriteOp, &regs_in,
&regs_out);
regs_in.r[0] = 256+12; /* Save a
sprite file */
regs_in.r[1] = (int) sprite_area;
strcpy(text_buffer,
"<SpriteOp$Dir>.SpritesOut");
regs_in.r[2] = (int) text_buffer;
_kernel_swi(OS_SpriteOp, &regs_in,
&regs_out);
```

Plotting a sprite to the screen isn't quite so clear-cut as a large number of different calls can be used depending on whether the sprite has a mask, whether it's got to be scaled before plotting and so on. Assuming for the moment that the sprite being plotted was defined in the screen mode currently being used, we can perform the operation in the following manner:

```
regs_in.r[0] = 256+34; /* Plot sprite
from user bank */
regs_in.r[1] = (int) sprite_area;
strcpy(text_buffer, "my_sprite");
regs_in.r[2] = (int) text_buffer;
regs_in.r[3] = 256; /* x coordinate
*/
regs_in.r[4] = 256; /* y coordinate
*/
regs_in.r[5] = 0; /* plotting action
*/
_kernel_swi(OS_SpriteOp, &regs_in,
&regs_out);
```

Counting from zero, the registers hold the *OS_SpriteOp* action (*OS_SpriteOp 34* is a simple plot routine that allows a sprite to be displayed at a pair of coordinates), a pointer to the user sprite area, a pointer to the name of the sprite to be used, *x* and *y* coordinates and finally a number that specifies a plotting action. This is normally set to zero which means that the sprite's pixel colours are transferred without modification, but it's possible to OR, AND or EOR the sprite onto the screen instead.

And now the bad news. When dealing with the WIMP it's impossible to make the above assumption and, unless we do something about it, strange things will happen if sprites are plotted in screen modes other than the ones in which they were created. Luckily, there's a method of mapping between palettes with differing numbers of colours and by using a combination of pixel translation tables and scaling factors, our sprite can look the same no matter which mode it's plotted into. I'll delve deeper into this next month.

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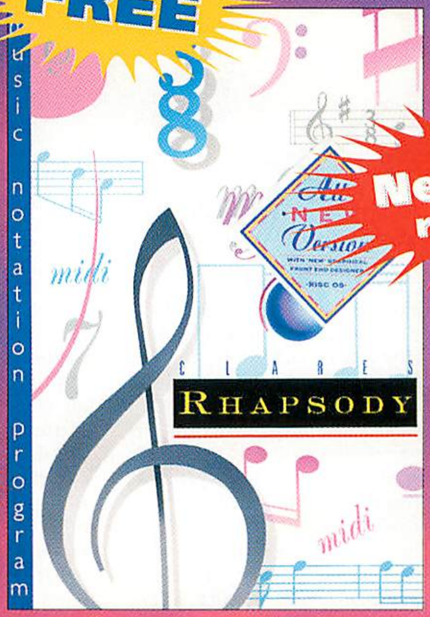
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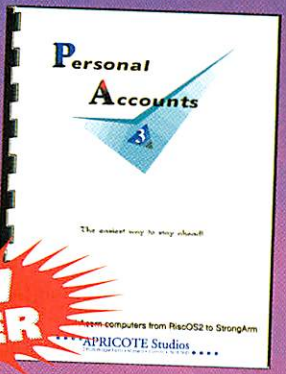
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let

Top marks

I am currently considering the purchase of a new computer for University in September.

All my computer literate life I have used PCs and Windows. I recently had the opportunity to use a SA Risc PC and I can safely say I was instantly converted to the Acorn platform. I admire the low memory footprint of RISC OS and applications, as I have become used to slow response and continuous disc thrashing. The main disadvantage for the Acorn platform is that, as a small British manufacturer, awareness of the products is sadly lacking. I could quite easily say that if Acorn had the advertising budget of Microsoft, it would be a world standard with ease.

I am seriously considering buying a Risc PC with StrongARM for Uni but the price of everything you need is extremely constrictive. The Risc PC is expensive but the SA deal from CJE or Microbits seems good value for money. However, to make a clean start on the Acorn one also has to buy *ArtWorks*, *Impression* and in my case a C++ package.

Do you see the price of a SA Risc PC system becoming more affordable once the RiscPC II system/mainboard is released later this year? I would value your opinion greatly, if you could tell me how suitable you think the Risc PC is for a computer science course involving C++ programming for both PC and UNIX platforms.

Gareth Woolridge
gazwooly@compuserve.com

We will be seeing the advent of faster, cheaper systems very soon, but it's very likely that the top-of-the-line machines will remain pricey. Of course, once the new machines become available there will be a glut of second-hand equipment on the market. As far as C++ is concerned, adequate systems are available – the free GNU G++, Beebug's C++ and the Acorn C++ (in order of increasing price) all work but none is perfect.

A stiff PIMs

I am currently assessing the PDAs/PIMs available with respect to their connectivity and user-programmability.

I have no intention of buying one that cannot be connected to my Acorn computer, and ideally would also like to connect it to a PC. As far as I'm aware the Psion 3 series can connect to PCs and the Pocket Book can connect to Acorns, but can either of them do both? Plus, what about the Apple Messagepad? I know that this can be connected to both PCs and Macs but is there any support for the Acorn machines?

My knowledge of the user-programmability of the devices is similarly limited – the Psion has its own built-in language and editor, but I have yet to see any mention of programming for the MessagePad. Given that Apple's device is based on an ARM processor, is it possible to develop code on an Acorn and port it to their PDA?

David Francis
davidf@amberoom.demon.co.uk

The Psion and Pocketbooks are identical apart from shipped software. The MessagePad is not designed to be programmed by a casual user — Apple's standard practice.

Time to exploit

At last, someone has made the point about the quality of Acorn computers.

I have failed to find anything on any Acorn setup I have used which indicates a possible problem where the year 2000 is concerned. Acorn would be well advised to produce an advertising campaign focusing both on business and home users and prominently featuring Acorn computers' near-immunity to the well-publicised millennium bug.

ters

I confidently predict that certain other companies will fail to provide fixes to the problem until well into 1999, relying on customers not to care about the looming mega-crash. While the bus is moving, they expect no one to look out of the windows as it speeds towards a tight bend. These, after all, are the customers who have put up with computers that won't even start up if there is a disc in the floppy drive.

So exploit this situation now Acorn, and next year could see a huge number of converts from the PC world. But don't waste time, since in 18 months it will be nearly too late.

Michael Barnes
litening@spuddy.mew.co.uk

Wright to wonder

I have a PC card running Windows 95, and apart from the few items supplied with Windows 95, do not have any other PC software. I am aware that not all PC applications work under the PC card, and I am rather reluctant to buy programs that may not function.

As you recently published a list of StrongARM compatible applications, I wonder if it may be possible to produce a similar listing of PC applications that work with the PC card? I appreciate that there are too many applications to know about them all, and of course some will work under Windows 3.11 and not Windows 95. Despite these problems I am sure that a list of the most popular applications would be useful to many PC card owners, allowing them to use a PC application were something of similar type is not available on the Acorn platform.

Jeff Wright
Eastbourne, East Sussex

You can be sure that the most popular applications will function satisfactorily. It's the games — as ever — that have the most problems.

The speed of sound

Last night I witnessed a particularly strange phenomenon. I ran the dhrystone speed test and returned a result of 377358, almost 10 per cent above the normal rating I get of 344000. Perplexed by this I ran another speed test program - this too returned a result of 10 per cent higher than usual.

As another test I ran the high res Jan 3D demo on the StrongARM CD. This also showed an improved frame rate of between 10 and 15 per cent. Rather than settle for this magical enhancement in processor power I tried to find what was causing this rather unnatural effect. The 'problem' was rectified by stopping the music CD I was listening to in my CD-ROM player, but unfortunately it did not return upon pressing play again!

I have not been able to re-create this miraculous occurrence and I was wondering if this was a documented effect and if so whether the details can be made public.

Martin Rowbory
marts@bigfoot.com

Give and take

I feel I must reply to Alex Singleton's comments in your March 1997 letters page - his comments about the Web and its use by companies.

Sadly, the Web is being used as an advertising medium - by companies and political parties alike. Unlike the media of television and print, the Web is capable of far more interaction, and it can allow a company to provide a service as well as a marketing message. Certainly, I would not look for a builder on the Web - and I agree that the Yellow Pages is a good basis for that type of search. On the Web, however, I can research products and services on a wider basis.

It is just as possible to prove that you have sent an e-mail or a communication via a Web page form as it is to prove a fax. The documents that Mr Singleton mentioned (phone bills and a fax report) only prove that a connection was made. Beyond that he has no control over the fax arriving, nor how it is treated on the desk of the recipient. With e-mail, one can trace the mail via the ISP from its source to its destination, so the transmission and receipt can be proven. Again, though, it is up to the individual at the other end to deal with the e-mail promptly.

Those who adopt e-mail and Web sites as an integral part of their business practice must use it properly. Ideally, e-mail should be checked three times a day. If Mr Singleton's estimates are correct, a lot of businesses are losing out on customers because of their lax attitudes towards electronic communications.

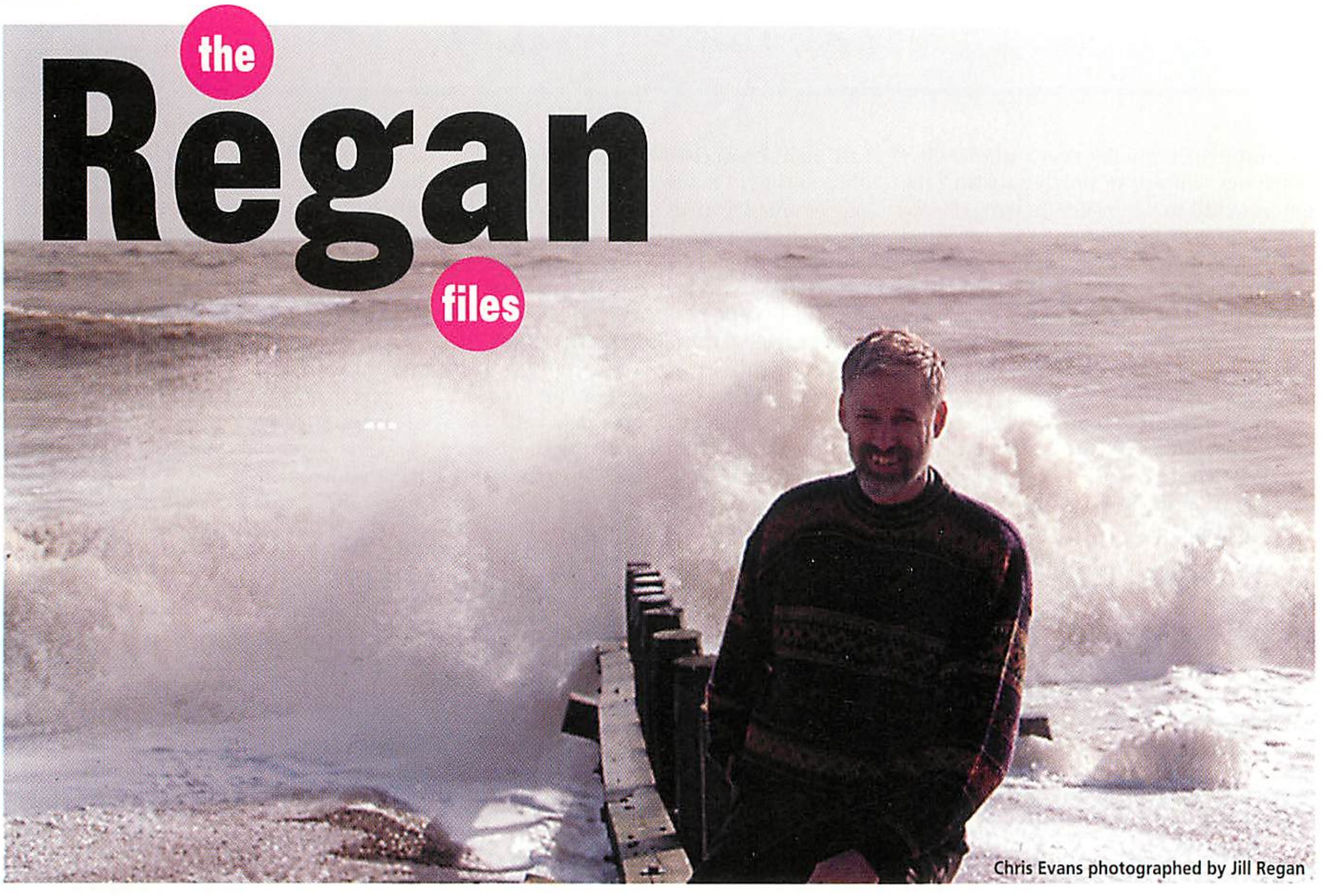
Mr Singleton also voices his concern that while a fax can be used as a contract, e-mail cannot. A contract is legal and binding in whatever form it comes - you can be held legally to a verbal agreement. Digital signatures can be used to pinpoint an individual's transmission and only adds to the weight of the electronic contract.

The recent furore in the USA and France over the limitations of bit keys for cryptography only shows the real concerns that state departments are worried over secrecy on the Net. In America, the exportation of keys of over 40 bits in length is illegal because certain government departments cannot decipher the document they are locking. A certain Mr Gates is not happy about this, and he travelled to France recently to speak to the powers that be there in an attempt to convince them not to make similar legislation.

At the end of the day, we must bear in mind that the Web is very new and is growing very fast in its capabilities. Companies who want to use the Web should research what is possible and must be prepared to use the technology once they have embraced it. Companies who are already on the Web should look to making their sites functional and interesting to their customers. It is very much a give and take system - and to really make the Web work efficiently, more companies should be putting something back into the mix to improve the flavour.

Paul Dunning
Access Communications Ltd
St Albans, Herts

the Regan files



Chris Evans photographed by Jill Regan

The word 'dealer' in the computer business usually conjures up an image of the archetypal box shifter with the 'pile it high, sell it cheap' philosophy; the 'Del and Rodney' of the computer industry, a faceless organisation who is at one show and gone the next.

Wrong – at least in the case of CJE Micros (prop. Chris Evans). It's been a dealer for over 14 years which isn't fly-by-night by anyone's standards. This shop can only be described as an Acorn Aladdin's cave. If you want something for an Acorn then CJE Micros probably has it.

Ninety five per cent of the computers sold by CJE Micros are individually built to customers' own specifications. It's evident from this that there is not just one type of customer. They come from all over the world and the uses range from homework to designing loudspeakers.

'I do try to do things differently,' offers Chris as the reason for his success. 'My ideal has always been to sell competitively priced hardware while at same time providing an after-sales service. It may seem good to travel to save £20 on a monitor but all you have then is a monitor and no back-up. These days things are getting harder. Let's face it – anyone can sell a box, but what the customer demands now is good customer service. It's the same in small or large stores; individual attention, a genuine sales advisor and help just a phone call away.'

After training as a civil engineer Chris worked in the family nursing home and then became a psychiatric nurse for five years. With this background, it comes as no surprise to hear that Chris got into the Acorn market by accident, 'I'd always been interested in technology type things and I wanted to buy a computer to play around with. Then I found out about the BBC Micro when it was first previewed at the *Personal Computer World* Show back in 1981.

'Deciding to buy one, I had the obligatory six month wait get hold of it. In the meantime I found out that it did not come with the cassette lead you needed, so I thought I ought to get prepared. Then I discovered I could not get the bits to make one up easily. I thought there must be a market for this, so I started making up cassette leads. As a result, I was the first third-party to make any Acorn-specific products.'

> **'I was the first third-party to make any Acorn-specific products'**

'I then saw a book called *20 Programs for your 1K ZX81* and realised I could write something as good as those. I ended up leaving my job and setting up business; I wrote *30+ Programs for the BBC*.

'I had to go to the bank manager to finance a daisy wheel printer – I told him we only had to sell 500 to break even and in the end we sold over 8,000.'

Being in right at the start has helped Chris enormously, although he admits that at times he can feel like the White Queen, running frantically just to stand still. A head start doesn't last for long when everyone is as on-the-ball as they tend to be in the Acorn market.

'In some ways it is *easier* now that Acorn does not give dealers as big a discount – undercutting is not done as much. What still remains difficult is memory – memory pricing is more volatile and more of a gamble than the stock exchange.

'Prices shot up 10 per cent this week from last week but it is still cheaper than four months ago. The problem is that I have to realise that a customer will not wait if I don't have memory in stock and will go to someone who has. So I have to speculate.'

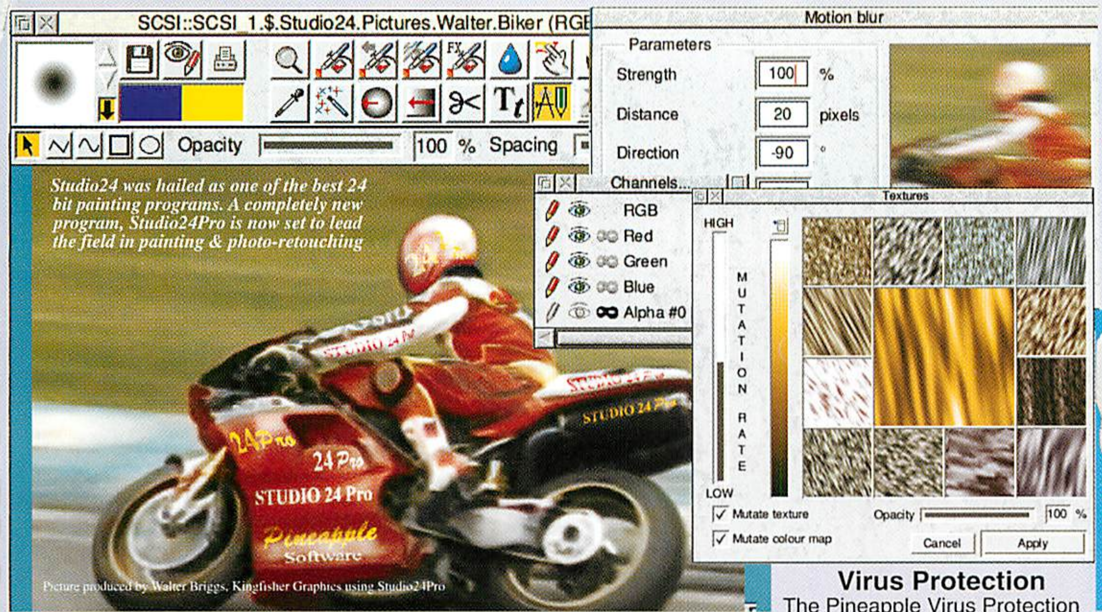
On the whole though Chris believes that the doom and gloom of a few months back have vanished and there's a new optimism. While it would be out-of-character for Chris to be wildly enthusiastic, he exudes a calm confidence that is, if anything, even more reassuring.

'We have one or two things coming along like a faster PC cache, which is basically a modified PC card.' Don't try this at home kids. Chris can testify to the number of people who accidentally drill holes in PCBs that they *really* didn't want to.

In the beginning even Chris had an engineer to design things, although these days he does it himself.

If you are ever in Worthing taking the sea air for your constitution, pop-in and see Chris who is just a stone's throw from the beach. Who knows what the sea air might do for your image of a typical computer dealer?

Jill Regan AU



Picture produced by Walter Briggs, Kingfisher Graphics using Studio24Pro

'Many Acorn User front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool'. - *Acorn User March 96*

Studio24Pro
£146.87 inc vat
Special Offer!
Studio24 v1 £35.00



Casio QV10a Digital Cam £376.00
Casio QV100 £528.00

The Casio QV10a and the high resolution QV100 Digital Cameras are now available for Acorn Computers. They are supplied complete with all cables and software. Store up to 96 images. Software and cables only price:- £116.33

Removable Harddrive System
Total Data Security & Harddisc Backup



The removable harddrive system fits into a 5¼" drive slot in the RiscPC and harddrives are available in many sizes which can simply plug in and out of the slot as required. The drive may be locked in place to prevent unauthorized removal. For total security the drive may be removed and stored in a safe place to prevent unauthorized access to your data. Because the removable drives are available in any size (up to at least 4Gb) they are also ideal for use as backups for existing drives, and may be transported between different computers.

PAL TV Coders



PLC/3 £104.57

The PLC/3 PAL TV Coder works in any of the 'Standard' Modes, e.g. mode12 and 15 on all Acorn computer models. The PLC/3 has a 15 pin RGB output for the monitor, a BNC for video and an S-VHS connector for S-Video. The PLC/3 will work with RiscPC computers although the AKF60 and AKF91 will not work at the same time.



AVK/3 £325.00

The AVK/3 will work with all computer models in all screen modes up to 800 x 600 resolution in 16 million colours. It has a remote control with facilities for zooming, freezing & panning the TV picture. The AVK/3 includes all connecting cables including a SCART which gives TV frequency RGB O/P for large screen TV's, a phono socket for composite video and an S-VHS socket for S-Video.

!NEW! A new model, the AVK/5 is similar to the AVK/3 but has the added feature of remote mouse operation using the infra red hand held remote control. This enables lectures and demonstrations to be done without having to sit at the computer keyboard. **AVK/5 £425.00**

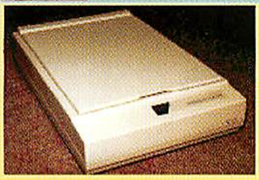
ArtWorks Video Tutorial



Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks Video Tutorial £19.99

24 Bit Colour Scanners



Pineapple offer a wide range of Flatbed A4 colour scanners. (At NEW LOWER PRICES - see opp.) The cheapest in the Epson range is the GT5000 with an optical resolution of 300dpi. This is adequate for virtually all home use. The GT5000 is available with either a parallel or a SCSI interface. The *NEW* GT9500 is the top of the range with an optical resolution of 600dpi and both parallel and SCSI interfaces. Imagemaster and Twain software are included in the price, but we also offer our Studio24Pro Photo re-touching software at just £80.00 inc vat with every scanner purchase.

Internet & World Wide Web

For all our latest prices and news of new products try our Web Site:-

Jet Media Labs 33,600 ext	£ 89.00
US Robotics Voice Modem	£189.00
ANT Internet Suite Software	£116.32

http://www.pineaple.demon.co.uk

Virus Protection



The Pineapple Virus Protection Scheme will allow you to detect and remove over 100 viruses from your Acorn computer.

£28.20 one year subscription

'If you're interested in virus protection, join the Pineapple virus protection scheme and buy Killer. Accept no alternatives.' - *Acorn User Feb 96*

Multimedia Speakers

Yamaha 10 Watt	YST-M15	£63.00

A4 Colour Scanners

Epson GT5000 (parallel)	£399
Epson GT5000 (SCSI)	£469
Epson GT8500	£529
Epson GT9500	£679

All scanners include Imagemaster & Twain. Studio24Pro at just £80.00

A7000 Computers

4Mb	HD540	14" Mon	£1099
4Mb	HD540 CD	14" Mon	£1199

RiscPC 700 Computers

4Mb	HD540	No Mon	£1025
4Mb	HD540 x4CD	No Mon	£1075
5Mb	HD540	No Mon	£1179
5Mb	HD540 x4CD	No Mon	£1229
10Mb	HD1Gb	No Mon	£1329
10Mb	HD1Gbx4CD	No Mon	£1379

StrongARM RiscPC

10Mb	HD1Gb	No Mon	£1439
10Mb	HD1Gbx8CD	No Mon	£1489

RiscPC monitors

Acorn 14" SVGA monitor	£ 264
Acorn 17" SVGA monitor	£ 640

PC Cards/StrongARM

	Separately	with RiscPC
DX2-66 Card	£289.00	£169.00
DX4-100 Card	£349.00	£229.00
586-100 Card	£468.83	£351.33
StrongARM	£279.00	£116.32

CDRom Drives

x8 CDRom (RiscOS 3.6/3.7)	£120.00

Memory Upgrades

'Phone for latest SIMM prices !!

1Mb Vram (Simtec)	£ 80.00
2Mb Vram (Simtec)	£115.00
4Mb SIMM Ram	£ 19.00
8Mb SIMM Ram	£ 39.00
16Mb SIMM Ram	£ 69.00
32Mb SIMM Ram	£135.00

All our prices INCLUDE 17.5% vat

Printers

Hewlett Packard			
Laserjet 5L	4ppm	£399.00
Deskjet 690	colour	£269.00
Deskjet 870	colour	£399.00
Canon		
BJC620	col 720dpi	£315.00
BJC4200	col 720dpi	£249.00
BJC240	colour	£199.00
BJC4550	A3 Colour	£399.00
Epson		
Stylus Colour 500		£269.00
Stylus Colour IIS		£199.00
Stylus Pro XL+ (A3)		£999.00

3.5" Bare Harddrives

540Mb	IDE	£ 99.00
850Mb	IDE	£119.00
1.2Gb	IDE	£155.00
2.0Gb	IDE	£229.00
3.2Gb	IDE	£285.00
1.0Gb	SCSI	£225.00
2.0Gb	SCSI	£329.00
3.2Gb	SCSI	£399.00
4.2Gb	SCSI	£665.00

Removable Harddrives

IDE Mounting Kit	£ 15.00
IDE Removable Case	£ 10.00
SCSI Mounting Kit	£ 19.00
SCSI Removable Case	£ 10.00
External Mounting Box	£ 89.00

SCSI Systems

SCSI Card	£116.32
SCSI Internal Cable	£ 9.99
SCSI External Cable	£ 19.99
SCSI II Card	£189.00
SCSI II Internal Cable	£ 9.99
SCSI II External Cable	£ 22.32

Monitors

14" CTX	1024x768	£189.00
15" CTX	1280x1024	£279.00
17" CTX	1280x1024	£449.00
17" CTX	1600x1200	£579.00
20" 82Khz SVGA		£1115.00
Iiyama Visionmaster		
17" 0.26mm MF8617E		£599.00
17" 0.25mm MF9017E		£669.00
Acorn		
14" AKF53 Multiscan		£265.00

!NEW Computer Trade in deals!

!! £200 trade-in offer when you buy any new computer!!

This offer is open to any Clan members when purchasing any RiscPC. (You can join the clan for just £15). Trade-in a PC compatible, Atari, Amiga or Acorn computer (not BBC), and deduct £200 from the prices shown above.

20 : 20 Finance available on all RiscPC's
Studio24 v1 FREE with any RiscPC purchase
FREE membership of the Virus Protection Scheme with any RiscPC
Studio24Pro at just £49.00 with any RiscPC purchase
Try our 'Choose your own RiscPC' deal and save money

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Terms:- *All prices include* 17.5% vat. Carriage £15.00 on computer systems. £5.88 on all other hardware. Other items free. Phone for quote outside U.K. Official orders, cheques and all major credit cards accepted at no extra charge.

'Pineapple offer some of the finest and friendliest after-sales support you will find' - Acorn User Mar 96

Why not come and visit us (easy parking) where you can see most of the Acorn range of computers and other hardware in action.

Monday - Saturday 0900 - 1730

Acorn Centres of Technology